

No. 78 SELENOETIC MEASURES ON YERKES LUNAR PHOTOGRAPH NO. 482

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ABSTRACT

Details are given of the measures and reductions for 1438 points on Yerkes lunar photograph No. 482. The catalog lists the uncorrected photographic coordinates, the refraction-free coordinates, and the standard direction-cosines of 990 points on the disk. Also given are the uncorrected coordinates and the refraction-free photographic rectangular and polar coordinates of 448 points on the bright limb. The disk and limb surveys are incomplete because of plate damage.

1. The Photograph

Yerkes 482 is a photograph with fairly high resolution obtained by E. Moore using the 40-in. refractor of the Yerkes observatory at $8^{\text{h}}12^{\text{m}}17^{\text{s}}$ on 18 September 1959. The phase is near full with the evening terminator through the crater La Pérouse.

Despite extensive plate damage, which made it impossible to measure in a lune-shaped area in the second lunar quadrant against the northwest limb, I decided to measure this plate since no better one at this phase was obtained in the Yerkes photographic program.

Despite the commonly held idea that measures can be made over the entire disk for a plate near full, I found that noticeable phase effects made measurement either risky or impossible over wide areas of the plate. Craters near the terminator are easily seen as such and cause no difficulties. Craters near the bright limb are seen as spots and are also easy to bisect. Between these is a relatively wide zone in which the bright spots are not fully developed, sometimes appearing as crescents. I preferred to omit such points from the measures since it is quite difficult to estimate the positions of the centers of the rims.

Measures of these points may introduce appreciable phase effects, and indeed, there are reasons to believe that such effects are present in the selenodetic triangulations of Franz and others.

The measures on 482 relate to 990 points on the disk and 448 points on the bright limb. These were made by Mr. H. Connors. The survey of the disk is incomplete because of the plate damage, which also restricts the limb survey to an arc of 119° . The incompleteness of the limb survey implies that the limb radius r is not entirely reliable, and indeed for this photograph, the discrepancy between r and the theoretical radius $1/\mu$ derived from the selenodetic points is abnormally large.

2. The Measures and Reductions

The measures were made in the same way and with the same equipment as for previously measured photographs. The details are given in *Comm. LPL* Nos. 60 and 61 and need not be repeated here. However, two innovations were introduced in the measures of 482 which should be noted.

As noted in *Comm.* No. 61, the eyepiece grati- cules supplied with the comparator were found to

be quite unsuitable for measures on lunar photographs. The comparator is now fitted with a graticule that is essentially a centered grid square to the coordinate axes. There is a small gap in the arms of the central cross where they meet, so that very small craters are not visually obliterated during bisection. The other grid lines permit direct bisections of craters of all sizes, ranging up to 20 km, and obviate the boxing and tangenting that was previously necessary. Measures with the new graticule appear to be more rapid and accurate.

The other innovation is the use of two fiducial marks on opposite edges of the photograph. Previously it was the practice to observe the photograph in two reverse orientations. During the measures in one orientation, the plate could not be disturbed in any way. This was found to be inconvenient. Also, the forward and reverse orientations were united by using the measures on the selenodetic points themselves. This too was inconvenient, since it meant that observations in the first orientation could not be repeated for dubious readings without a considerable amount of reobservation.

The present procedure utilizes the two fiducial marks. These are naturally occurring pinholes or defects which can be bisected within one or two microns. These marks are bisected repeatedly in the initial measuring sessions in both orientations, and standard readings are established for both marks in both orientations. In subsequent measuring sessions, the readings are converted to standard readings by the transformation

$$\left. \begin{aligned} X &= x \cos \theta - y \sin \theta + h \\ Y &= y \cos \theta + x \sin \theta + k \end{aligned} \right\} \quad (1)$$

The coefficients θ , h , k are determined from the standard and current readings on the marks. After both direct and reverse readings are standardized in this way they are united using (1), but with coefficients found from the two sets of standard values of the marks.

This procedure is valid only when temperatures are closely controlled, as is the case in the LPL measures, since (1) makes no allowance for change of scale. We are therefore considering the use of the transformation

$$\left. \begin{aligned} X &= px - qy + h \\ Y &= py + qx + k \end{aligned} \right\}, \quad (2)$$

which would allow for a change of scale. The use of (2) would make the temperature of the initial direct session the effective temperature of *all* the measures.

However if (2) is used, the scale factor $\sqrt{(p^2 + q^2)}$ must be carefully tabulated for each session and monitored for errors in the measures of the marks.

3. The Internal and External Precision of the Measures

The internal precision was estimated from the semidifferences δx and δy of the direct and reverse readings, using every tenth point of the final listing to obtain a representative sample. The standard errors of the mean x and y are estimated as 8 and 6 microns respectively.

The positions in the plane of the refracted photograph were adjusted to the theoretical positions of 57 points taken from the Breslau triangulation (Schrutka-Rechtenstamm 1958). The residuals are given in Table 1 in terms of the horizontal and vertical plate coordinates u' and v' . The standard values, corrected for four degrees of freedom, are 0.00018 and 0.00022 in units of the moon's radius. Almost all this dispersion must come from errors in the measures on 482. This was confirmed by repeating the adjustment using points from the ACIC triangulation (Meyer and Ruffin 1965). The residuals in the two adjustments were found to be strongly correlated, and hence it must be inferred that these residuals are, for the most part, due to something common to both adjustments, namely the errors of the LPL positions. Since the internal errors are quite small, the relatively large dispersion encountered in the adjustments must be attributed to seeing errors. These are now known to be of such a magnitude as to limit the usefulness of the short-exposure lunar photographs that have hitherto been used for selenodetic work.

4. Data for the Reduction of Yerkes 482

LIBRATIONS:	$l' = +3^{\circ}90,$ $b' = +1^{\circ}18,$ $C' = 335^{\circ}34.$
GEODETIC:	$\rho = 0.99852,$ $\phi = +42^{\circ}57,$ $\phi' = +42^{\circ}38,$ $L = 5^{\text{h}}54^{\text{m}}13^{\text{s}}64 \text{ W.}$
SEMI- DIAMETER:	$\pi = 55'.63,$ $s = 909''.5,$ $\sin s' = 0.004461.$
ATMOSPHERIC:	$b = 28.63 \text{ in.},$ $F = 52^{\circ}\text{F.}$

TABLE 1
LEAST SQUARES FIT TO SELENODETIC CONTROLS

POINT		RESIDUALS*		POINT		RESIDUALS*	
Blagg and Müller	Consol. Catalog	u'	v'	Blagg and Müller	Consol. Catalog	u'	v'
895	10470	+10	+ 5	3736	41278	- 4	-36
622	13421	+ 2	- 6	3780	41365	-22	- 3
965	11718	-15	-29	2396	36258	-28	-17
391	15645A	- 4	- 6	2419	35356	- 5	-28
834	10093	-22	+17	2491	34339	-13	+ 6
1214	20115	- 7	+10	1390	23535	+23	+22
1215	20155	+10	0	1589	24496	+13	+12
865	10016	- 7	+16	1529	24197	+10	- 4
857	10002	- 6	+27	1212	20141	+34	-21
482	14512	+11	+ 7	3570	40370	- 8	-10
12	19233	-27	+27	4143	45340	- 8	-42
183	16315	+ 8	+22	4108	44339	-15	+ 7
216	17152	+ 2	+ 5	4083B	44494	+17	-48
224	17053	+ 2	-11	4488	44761	-12	-16
2963	30114	+ 8	+15	4338	47221	-32	- 5
2947	30058	+31	+13	4258A	47099	-13	+20
2933	30095	+12	-23	4690	49106	-32	+17
2920	31019	+ 1	+22	819	12122	+ 6	-19
2918	31161	+16	+ 3	629	11486	+ 5	+ 8
2856	31290	+18	- 2	987	10950	+29	-18
1498	23021	-12	- 4	3667	44001	+18	+12
2922	32022	-10	+13	177	16446	+10	+38
3055	32307	+ 6	+24	2935	31043	+ 3	+ 5
2485	35003	-36	- 7	2088	38243	+21	+16
3680	43029	- 1	+32	2831	33285	- 2	-17
3607	41025	-19	+18	2417	36278	+28	-39
3606	41142	+18	+27	1814	27201	-24	0
3683	43100	- 5	+12	1145	20497	+ 7	-32
				4004	42697	+ 9	-36

*Residuals are stated in units of $10^{-5}r$.

REFRACTION: $\sin ZD' = +0.697\ 773,$
 $\cos ZD' = +0.716\ 319,$
 $\sin Q' = +0.392\ 579,$
 $\cos Q' = +0.919\ 718,$
 $1/\kappa = 0.99948,$
 $1/\kappa' = 0.99973.$

LEAST SQUARES FIT: $p = +0.007\ 8220,$
 $q = -0.008\ 5286,$
 $\mu = +0.011\ 5725.$

PROFILE: $h = +0.0994\ \text{mm},$
 $k = +0.1074\ \text{mm},$
 $r = 86.2619\ \text{mm}.$

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POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
1000271	125.1587	148.2691	-0.0025	-0.0001	4.8 2.8	3408
1002262	126.8213	148.3192	-0.0039	-0.0024	5.6 1.3	3409
1002700	126.3256	152.5277	-0.0085	-0.0107	6.7 2.7	3410
1003056	127.5611	146.9282	-0.0148	0.0028	4.4 6.2	3411
1004537	128.3193	151.4069	-0.0133	0.0007	4.5 3.1	3412
1004947	128.3142	154.8297	-0.0078	-0.0098	2.9 8.1	3413
1006734	130.0553	152.8140	0.0068	0.0029	3.4 5.4	3414
1009311	132.4231	149.0719	-0.0121	0.0032	6.1 4.3	3415
1010292	125.4524	157.0910	-0.0084	-0.0038	2.8 2.1	3416
1018383	132.3015	157.9649	-0.0059	0.0013	4.2 7.7	3417
1027992	131.7667	171.8398	-0.0008	-0.0031	9.9 1.1	3418
1035222	129.5673	174.3942	-0.0055	0.0036	3.5 9.9	3419
1039265	133.3316	174.7053	0.0004	-0.0073	3.1 0.7	3420
1047031	131.5410	181.3186	0.0108	-0.0004	3.8 3.8	3421
1048170	132.7834	182.1053	-0.0031	0.0016	1.4 1.7	3422
1053144	128.4479	191.3955	-0.0049	-0.0064	9.9 3.4	3423
1064690	130.6822	204.0747	-0.0020	-0.0079	3.9 4.2	3424
1065583	131.3811	203.4571	0.0031	0.0009	0.8 1.7	3425
1065753	131.2546	205.1845	0.0039	-0.0057	7.1 9.9	3426
1065830	131.0225	205.8445	-0.0055	-0.0055	3.3 3.3	3427
1065954	131.4184	207.0523	-0.0004	-0.0098	1.0 1.3	3428
1066449	131.8250	203.1052	0.0022	-0.0071	1.5 2.5	3429
1066495	132.2812	202.7448	-0.0106	-0.0064	2.3 5.1	3430
1068052	133.4331	198.9168	-0.0021	-0.0092	1.1 5.7	3431
1069564	134.7048	203.5538	-0.0130	-0.0095	9.9 7.3	3432
1069841	134.6423	205.8848	0.0028	-0.0031	4.4 3.3	3433
1070660	127.5417	212.8895	-0.0103	-0.0046	4.5 7.3	3434
1075008	131.0381	208.3598	-0.0014	-0.0067	3.0 3.1	3435
1077847	133.6398	215.2494	-0.0109	-0.0064	1.4 2.6	3436
1079791	135.6688	213.8650	-0.0051	-0.0037	4.7 3.8	3437
1085373	132.5468	219.3040	0.0002	0.0040	9.9 1.1	3438
1095066	133.2523	225.8477	0.0012	-0.0089	4.6 5.1	3439
1095738	134.2807	232.3566	-0.0127	0.0012	6.3 9.9	3440
1100641	133.6054	151.7127	-0.0114	-0.0037	2.6 3.6	3441
1101299	134.9012	148.8787	-0.0124	-0.0048	3.3 3.7	3442
1110395	134.1193	158.1583	-0.0025	0.0011	2.7 1.7	3443
1130348	134.0750	175.9073	-0.0027	-0.0041	3.0 2.1	3444
1131067	135.0385	173.1473	-0.0082	0.0093	5.1 3.4	3445
1132675	136.1518	178.1632	-0.0074	-0.0007	1.7 5.7	3446
1134036	137.4747	173.0200	-0.0098	-0.0070	2.9 6.5	3447
1134657	137.7227	178.3755	-0.0074	-0.0040	3.6 2.2	3448
1135013	138.0997	172.7581	-0.0057	0.0090	4.7 2.3	3449
1139316	141.6231	175.5846	-0.0044	0.0037	9.9 5.6	3450
1140243	134.3545	183.2563	-0.0058	-0.0055	1.6 3.9	3451
1140778	134.8288	188.1086	-0.0141	-0.0086	3.7 2.5	3452
1148615	141.2351	186.9186	-0.0050	-0.0021	3.9 2.0	3453
1160615	135.2388	204.5362	-0.0072	-0.0032	2.0 3.2	3454
1166219	140.1910	201.2952	-0.0135	-0.0096	4.5 1.5	3455
1166876	141.0519	206.3364	-0.0039	-0.0079	2.0 2.1	3456
1167467	141.5962	202.9185	-0.0123	-0.0003	2.4 1.3	3457
1171842	137.0534	214.8380	-0.0050	-0.0059	4.4 3.2	3458
1174647	139.6222	213.5115	-0.0112	-0.0026	5.4 3.9	3459
1177326	141.8318	210.7452	-0.0059	0.0033	1.7 5.3	3460
1185873	141.9166	223.7528	0.0041	-0.0041	1.3 3.4	3461
1186398	142.4575	219.7256	0.0000	0.0062	2.1 0.6	3462
1186625	142.1765	222.1803	-0.0047	0.0007	1.9 1.9	3463
1189692	145.3912	221.9014	-0.0025	0.0020	1.1 2.9	3464
1190407	137.7050	229.5101	-0.0129	-0.0059	2.6 2.9	3465
1193687	141.5649	231.3945	-0.0068	-0.0072	2.1 7.3	3466
1195692	143.3521	230.9489	0.0017	-0.0021	3.9 1.3	3467
1199183	145.9235	226.4441	0.0024	-0.0061	3.3 7.1	3468
1203773	145.2663	152.7062	-0.0022	0.0059	1.8 1.7	3469
1204043	145.8709	146.6635	-0.0120	0.0044	6.1 2.7	3470
1206609	147.2961	152.3846	0.0261	0.0023	0.4 1.0	3471
1209479	150.5846	150.6109	-0.0099	0.0051	8.5 9.9	3472
1211068	143.5109	155.7915	0.0043	0.0006	7.5 2.7	3473
1212271	144.5006	156.8852	-0.0054	0.0045	3.0 1.3	3474
1216237	147.6084	157.4272	-0.0010	-0.0032	4.8 6.8	3475
1231049	143.6336	173.2657	-0.0100	-0.0135	5.9 9.9	3476
1232632	144.5737	177.9272	-0.0084	0.0083	3.2 4.5	3477
1233671	145.8001	177.7721	0.0145	0.0018	2.2 2.1	3478
1235315	146.9634	175.5995	-0.0136	-0.0109	9.9 0.6	3479
1238760	150.1930	178.6031	-0.0085	-0.0034	3.0 3.1	3480

POSITIONS ON THE DISK

1b

Ref	x'	y'	ξ	η	ζ	Ser
1000271	-5.3341	0.0282	0.00665	0.02085	0.99976	3408
1002262	-3.6712	0.0869	0.02583	0.02155	0.99943	3409
1002700	-4.1898	4.2944	0.01970	0.06998	0.99735	3410
1003056	-2.9235	-1.3008	0.03446	0.00557	0.99939	3411
1004537	-2.1893	3.1834	0.04280	0.05722	0.99744	3412
1004947	-2.2129	6.6075	0.04232	0.09661	0.99442	3413
1006734	-0.4602	4.6000	0.06263	0.07352	0.99533	3414
1009311	1.9288	0.8688	0.09022	0.03057	0.99545	3415
1010292	-5.0880	8.8549	0.00899	0.12242	0.99244	3416
1018383	1.7590	9.7644	0.08770	0.13291	0.98724	3417
1027992	1.1490	23.6416	0.07833	0.29215	0.95316	3418
1035222	-1.0651	26.1856	0.05224	0.32129	0.94554	3419
1039265	2.6990	26.5163	0.09540	0.32506	0.94087	3420
1047031	0.8719	33.1228	0.07242	0.40066	0.91336	3421
1048170	2.1105	33.9162	0.08637	0.40972	0.90811	3422
1053144	-2.2769	43.1874	0.03214	0.51558	0.85624	3423
1064690	-0.1103	55.8828	0.04989	0.66009	0.74953	3424
1065583	0.5922	55.2686	0.05838	0.65311	0.75501	3425
1065753	0.4563	56.9960	0.05564	0.67273	0.73780	3426
1065830	0.2205	57.6550	0.05246	0.68021	0.73114	3427
1065954	0.6101	58.8653	0.05605	0.69394	0.71785	3428
1066449	1.0382	54.9188	0.06374	0.64913	0.75800	3429
1066495	1.4965	54.5607	0.06924	0.64506	0.76099	3430
1068052	2.6695	50.7372	0.08507	0.60158	0.79427	3431
1069564	3.9167	55.3825	0.09647	0.65438	0.74999	3432
1069841	3.8415	57.7140	0.09399	0.68085	0.72636	3433
1070660	-3.2997	64.6846	0.00621	0.75985	0.65007	3434
1075008	0.2225	60.1713	0.05060	0.70875	0.70364	3435
1077847	2.7880	67.0769	0.07406	0.78690	0.61262	3436
1079791	4.8253	65.7024	0.09872	0.77134	0.62872	3437
1085373	1.6726	71.1273	0.05696	0.83258	0.55096	3438
1095066	2.3430	77.6771	0.05576	0.90603	0.41953	3439
1095738	3.3366	84.1937	0.05251	0.97779	0.20290	3440
1100641	3.0972	3.5166	0.10353	0.06104	0.99275	3441
1101299	4.4089	0.6883	0.11866	0.02847	0.99253	3442
1110395	3.5765	9.9672	0.10853	0.13522	0.98485	3443
1130348	3.4362	27.7225	0.10352	0.33887	0.93512	3444
1131067	4.4150	24.9665	0.11547	0.30730	0.94458	3445
1132675	5.5016	29.9900	0.12651	0.36479	0.92245	3446
1134036	6.8528	24.8517	0.14339	0.30595	0.94119	3447
1134657	7.0719	30.2105	0.14441	0.36729	0.91883	3448
1135013	7.4795	24.5929	0.15062	0.30297	0.94102	3449
1139316	10.9890	27.4386	0.18991	0.33547	0.92271	3450
1140243	3.6760	35.0757	0.10391	0.42296	0.90017	3451
1140778	4.1242	39.9322	0.10714	0.47842	0.87157	3452
1148615	10.5395	38.7748	0.18092	0.46508	0.86658	3453
1160615	4.4456	56.3680	0.10186	0.66557	0.73936	3454
1166219	9.4172	53.1513	0.16078	0.62891	0.76067	3455
1166876	10.2512	58.1988	0.16685	0.68621	0.70801	3456
1167467	10.8142	54.7825	0.17563	0.64741	0.74163	3457
1171842	6.2051	66.6829	0.11357	0.78239	0.61235	3458
1174647	8.7821	65.3692	0.14421	0.76748	0.62465	3459
1177326	11.0075	62.6132	0.17197	0.73622	0.65453	3460
1185873	11.0220	75.6261	0.15778	0.88283	0.44240	3461
1186398	11.5849	71.6002	0.16949	0.83764	0.51926	3462
1186625	11.2905	74.0543	0.16304	0.86521	0.47416	3463
1189692	14.5080	73.7919	0.19970	0.86208	0.46576	3464
1190407	6.7776	81.3638	0.09939	0.94681	0.30607	3465
1193687	10.6289	83.2688	0.13768	0.96735	0.21278	3466
1195692	12.4192	82.8322	0.15892	0.96245	0.22010	3467
1199183	15.0159	78.3390	0.19825	0.91280	0.35706	3468
1203773	14.7573	4.5706	0.23656	0.07289	0.96888	3469
1204043	15.3948	-1.4712	0.24398	0.00329	0.96977	3470
1206609	16.7897	4.2594	0.25965	0.06922	0.96322	3471
1209479	20.0890	2.5020	0.29710	0.04882	0.95360	3472
1211068	12.9845	7.6480	0.21618	0.10835	0.97032	3473
1212271	13.9687	8.7472	0.22728	0.12096	0.96629	3474
1216237	17.0748	9.3054	0.26249	0.12724	0.95651	3475
1231049	13.0128	25.1293	0.21357	0.30896	0.92679	3476
1232632	13.9280	29.7973	0.22267	0.36236	0.90505	3477
1233671	15.1558	29.6485	0.23666	0.36061	0.90219	3478
1235315	16.3313	27.4811	0.25063	0.33576	0.90799	3479
1238760	19.5459	30.5024	0.28613	0.37017	0.88380	3480

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
1245437	147.5125	185.3279	-0.0144	-0.0011	4.8 2.4	3481
1245880	148.0227	188.2486	0.0126	0.0136	2.5 2.3	3482
1250344	143.5257	192.9856	-0.0079	-0.0107	2.5 3.3	3483
1251018	143.9917	190.6344	0.0012	0.0035	2.4 1.7	3484
1260222	143.7174	200.6678	-0.0111	-0.0011	3.9 3.3	3485
1260406	143.7259	202.7859	-0.0067	-0.0035	5.5 3.6	3486
1266533	149.3138	203.4174	-0.0061	0.0027	3.7 3.1	3487
1269738	152.1926	205.6004	-0.0147	-0.0055	3.3 2.1	3488
1270195	144.9833	208.8475	-0.0138	-0.0080	6.1 3.6	3489
1272162	146.4520	208.5591	-0.0143	-0.0086	2.6 3.0	3490
1272255	146.4833	209.7098	-0.0148	-0.0081	4.0 3.3	3491
1274107	147.6857	209.0528	-0.0061	0.0050	3.4 2.3	3492
1274399	148.6768	210.9875	-0.0015	0.0035	3.3 2.1	3493
1281599	147.1040	221.5471	-0.0009	0.0072	8.1 2.4	3494
1283696	148.9860	222.2321	0.0020	-0.0054	9.9 6.2	3495
1285759	150.6223	223.4140	0.0076	-0.0056	5.6 3.7	3496
1286885	151.7688	223.9330	0.0023	-0.0091	9.9 2.7	3497
1287413	151.5097	220.1562	-0.0024	0.0001	3.2 2.5	3498
1289512	153.5736	221.0042	-0.0099	-0.0032	5.3 4.2	3499
1290212	146.3662	227.3319	0.0010	-0.0009	1.5 4.7	3500
1291024	146.9830	225.6886	-0.0065	-0.0101	4.4 2.8	3501
1291524	147.9890	230.1913	0.0045	-0.0028	4.2 1.7	3502
1292172	148.5827	226.3582	-0.0054	0.0012	9.9 8.7	3503
1292203	148.1281	227.3925	0.0042	0.0057	2.8 7.1	3504
1297180	153.0701	226.1398	0.0004	-0.0045	3.7 5.5	3505
1304810	154.5261	153.3377	0.0037	0.0002	1.9 1.1	3506
1305650	155.6558	151.6116	-0.0032	0.0006	4.1 2.6	3507
1311345	152.1581	158.1441	-0.0094	0.0020	8.9 9.9	3508
1316038	156.5020	155.7198	0.0003	0.0001	5.5 4.8	3509
1320358	151.5457	167.0954	-0.0012	0.0006	5.5 4.8	3510
1323594	154.5809	168.4646	-0.0069	0.0037	1.7 6.9	3511
1328665	158.7818	169.3895	-0.0059	0.0098	5.2 5.0	3512
1332680	153.8407	177.7309	-0.0119	-0.0120	3.5 2.8	3513
1340529	151.8379	186.3372	0.0015	0.0040	5.6 5.1	3514
1342158	153.8346	182.8194	-0.0077	-0.0071	5.1 1.9	3515
1351838	153.4755	197.7122	-0.0125	-0.0042	4.0 3.6	3516
1352553	154.3535	194.6545	-0.0076	-0.0150	4.3 9.9	3517
1354427	155.8606	194.0941	-0.0147	-0.0085	5.3 3.5	3518
1358431	159.4496	193.6009	0.0142	0.0052	4.6 3.0	3519
1358553	159.7217	194.6172	-0.0003	0.0085	2.4 3.3	3520
1360540	152.9898	203.1150	-0.0148	-0.0050	5.5 9.9	3521
1361420	153.6553	202.2785	-0.0139	-0.0068	5.4 1.5	3522
1362696	155.3179	204.5232	-0.0138	-0.0057	3.8 9.9	3523
1363759	155.8881	205.7189	-0.0130	0.0070	2.4 3.0	3524
1364082	156.6340	198.9246	0.0020	0.0102	3.1 1.9	3525
1366697	158.8622	204.6153	-0.0121	0.0039	4.7 6.9	3526
1371862	154.9838	214.7398	-0.0111	0.0027	5.3 3.5	3527
1374540	157.2088	212.0105	0.0043	0.0056	2.7 1.3	3528
1376726	159.1385	214.3039	-0.0067	0.0008	6.4 4.5	3529
1377239	159.6852	210.1227	0.0072	0.0050	2.4 9.9	3530
1383543	157.4373	221.0922	0.0116	0.0005	6.8 5.5	3531
1384512	158.0295	221.0913	-0.0055	-0.0003	4.8 2.2	3532
1386689	160.7304	222.5837	0.0035	-0.0049	0.9 6.1	3533
1386841	160.5662	223.6357	-0.0049	0.0023	1.9 3.2	3534
1389824	163.2664	223.9984	-0.0028	0.0009	4.1 2.1	3535
1390177	155.8796	226.8218	-0.0029	-0.0052	3.9 9.9	3536
1395011	159.6018	225.3721	0.0031	-0.0051	9.9 2.9	3537
1408335	167.1231	149.4447	0.0012	0.0010	3.1 4.3	3538
1413632	162.7350	160.4522	-0.0130	0.0048	3.7 2.6	3539
1414815	163.5359	162.4954	-0.0127	-0.0044	7.5 4.4	3540
1422946	162.1932	172.1313	-0.0017	-0.0036	4.3 1.5	3541
1426789	166.1101	170.7253	-0.0084	-0.0051	9.9 3.3	3542
1428554	167.5696	168.4676	-0.0033	-0.0103	4.2 3.4	3543
1429974	168.8160	172.0214	0.0045	-0.0075	3.1 2.4	3544
1431810	161.3303	179.4948	-0.0089	-0.0075	5.3 1.0	3545
1436230	165.7658	174.2293	0.0031	0.0051	4.4 2.3	3546
1436629	165.8440	178.5591	-0.0023	-0.0013	3.5 1.5	3547
1449062	169.0369	181.3875	-0.0040	-0.0009	4.3 3.9	3548
1451295	162.5845	192.1657	-0.0086	-0.0053	3.3 2.7	3549
1451624	162.2257	195.5977	-0.0080	0.0020	3.1 4.0	3550
1453417	163.8154	194.0979	-0.0062	0.0134	6.6 2.4	3551
1458890	169.1151	197.0194	-0.0030	-0.0028	9.9 9.9	3552
1460880	162.5111	205.8194	0.0041	-0.0084	4.4 3.8	3553

POSITIONS ON THE DISK

2b

Ref	x'	y'	ξ	η	ζ	Ser
1245437	16.8280	37.2159	0.25299	0.44704	0.85799	3481
1245880	17.3225	40.1403	0.25739	0.48040	0.83843	3482
1250344	12.7982	44.8559	0.20389	0.53437	0.82029	3483
1251018	13.2771	42.5062	0.21045	0.50757	0.83552	3484
1260222	12.9484	52.5419	0.20133	0.62186	0.75680	3485
1260406	12.9454	54.6608	0.19994	0.64594	0.73674	3486
1266533	18.5321	55.3213	0.26273	0.65317	0.71017	3487
1269738	21.4002	57.5200	0.29345	0.67794	0.67401	3488
1270195	14.1705	60.7311	0.20941	0.71477	0.66727	3489
1272162	15.6414	60.4502	0.22628	0.71151	0.66524	3490
1272255	15.6665	61.6015	0.22562	0.72455	0.65124	3491
1274107	16.8729	60.9504	0.23979	0.71711	0.65441	3492
1274399	17.8539	62.8909	0.24921	0.73902	0.62589	3493
1281599	16.2234	73.4463	0.21945	0.85809	0.46424	3494
1283696	18.1024	74.1413	0.23953	0.86573	0.43948	3495
1285759	19.7330	75.3320	0.25592	0.87888	0.40258	3496
1286885	20.8771	75.8571	0.26777	0.88462	0.38178	3497
1287413	20.6383	72.0776	0.27067	0.84237	0.46599	3498
1289512	22.6984	72.9366	0.29241	0.85179	0.43468	3499
1290212	15.4540	79.2294	0.20142	0.92263	0.32891	3500
1291024	16.0799	77.5887	0.21148	0.90437	0.37065	3501
1291524	17.0620	82.0983	0.21218	0.95389	0.21229	3502
1292172	17.6766	78.2668	0.22802	0.91175	0.34165	3503
1292203	17.2163	79.2991	0.22085	0.92322	0.31446	3504
1297180	22.1670	78.0715	0.27792	0.90903	0.31052	3505
1304810	24.0173	5.2501	0.34132	0.08021	0.93652	3506
1305650	25.1568	3.5292	0.35426	0.06033	0.93320	3507
1311345	21.6224	10.0461	0.31388	0.13551	0.93974	3508
1316038	25.9811	7.6433	0.36326	0.10760	0.92545	3509
1320358	20.9613	18.9975	0.30505	0.23832	0.92203	3510
1323594	23.4903	20.3829	0.33895	0.25402	0.90586	3511
1328665	28.1879	21.3298	0.38596	0.26456	0.88377	3512
1332680	23.1997	29.6487	0.32764	0.36019	0.87345	3513
1340529	21.1496	38.2479	0.30144	0.45859	0.83596	3514
1342158	23.1661	34.7391	0.32554	0.41839	0.84792	3515
1351838	22.7263	49.6355	0.31358	0.58827	0.74539	3516
1352553	23.6212	46.5812	0.32535	0.55345	0.76671	3517
1354427	25.1319	46.0284	0.34261	0.54704	0.76378	3518
1358431	28.7250	45.5535	0.38312	0.54133	0.74845	3519
1358553	28.9917	46.5716	0.38555	0.55290	0.73868	3520
1360540	22.2112	55.0378	0.30435	0.64971	0.69660	3521
1361420	22.8815	54.2044	0.31245	0.64020	0.70180	3522
1362696	24.5326	56.4585	0.32938	0.66566	0.66964	3523
1363759	25.0965	57.6576	0.33479	0.67921	0.65314	3524
1364082	25.8795	50.8646	0.34823	0.60201	0.71855	3525
1366697	28.0778	56.5689	0.36890	0.66659	0.64774	3526
1371862	24.1431	66.6771	0.31607	0.78129	0.53822	3527
1374540	26.3837	63.9583	0.34375	0.75039	0.56458	3528
1376726	28.3018	66.2625	0.36268	0.77618	0.51577	3529
1377239	28.8713	62.0826	0.37315	0.72894	0.57394	3530
1383543	26.5632	73.0445	0.33490	0.85253	0.40129	3531
1384512	27.1556	73.0467	0.34140	0.85247	0.39591	3532
1386689	29.8495	74.5536	0.36825	0.86882	0.33096	3533
1386841	29.6795	75.6051	0.36443	0.88051	0.30315	3534
1389824	32.3788	75.9819	0.39240	0.88407	0.25384	3535
1390177	24.9739	78.7682	0.30688	0.91624	0.25753	3536
1395011	28.7054	77.3372	0.35027	0.89980	0.26015	3537
1408335	36.6403	1.4206	0.48301	0.03501	0.87492	3538
1413632	32.1910	12.4096	0.43241	0.16186	0.88703	3539
1414815	32.9811	14.4576	0.44095	0.18531	0.87819	3540
1422946	31.5858	24.0902	0.42337	0.29590	0.85627	3541
1426789	35.5118	22.7038	0.46755	0.27964	0.83857	3542
1428554	36.9841	20.4528	0.48447	0.25368	0.83722	3543
1429974	38.2118	24.0144	0.49725	0.29435	0.81615	3544
1431810	30.6827	31.4519	0.41109	0.38023	0.82851	3545
1436230	35.1484	26.2074	0.46257	0.31980	0.82689	3546
1436629	35.2032	30.5392	0.46184	0.36936	0.80640	3547
1449062	38.3821	33.3850	0.49615	0.40153	0.76981	3548
1451295	31.8689	44.1339	0.41895	0.52487	0.74094	3549
1451624	31.4913	47.5654	0.41287	0.56397	0.71517	3550
1453417	33.0898	46.0732	0.43150	0.54682	0.71749	3551
1458890	38.3757	49.0231	0.48828	0.57975	0.65229	3552
1460880	31.7216	57.7923	0.40844	0.68007	0.60883	3553

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
1461456	162.8661	202.8603	0.0018	0.0102	2.8 3.1	3554
1462758	164.0249	205.6712	-0.0110	0.0045	2.8 2.7	3555
1462965	164.2156	207.1999	-0.0074	0.0113	6.3 3.3	3556
1470411	162.3320	211.1792	-0.0081	0.0067	2.2 3.0	3557
1472658	164.7261	213.6968	-0.0027	0.0096	4.8 9.9	3558
1473167	165.2729	209.0365	-0.0031	0.0101	3.4 9.9	3559
1473253	165.3040	209.6727	0.0043	0.0037	8.0 3.7	3560
1473729	165.5136	214.5990	0.0024	0.0119	3.1 5.4	3561
1475034	166.7737	207.4587	0.0045	0.0025	4.0 9.9	3562
1481507	164.5209	221.5300	0.0144	-0.0090	5.6 4.7	3563
1484219	166.9293	219.0608	0.0047	0.0059	2.7 1.9	3564
1485373	168.4051	219.4569	0.0002	-0.0014	2.8 8.1	3565
1500308	168.6392	149.7167	0.0048	-0.0021	2.9 2.2	3566
1503826	171.5356	153.8709	-0.0094	0.0018	0.7 2.3	3567
1510688	169.4967	161.0121	-0.0060	0.0033	2.0 2.5	3568
1511584	170.3546	159.8231	-0.0028	0.0005	1.3 0.9	3569
1514744	172.8051	161.5706	-0.0064	0.0085	3.2 2.2	3570
1514769	172.9419	162.0319	-0.0068	0.0019	2.3 0.8	3571
1532935	171.3942	180.8678	0.0019	0.0001	3.7 2.6	3572
1533005	171.8019	172.9779	-0.0018	-0.0012	3.1 4.3	3573
1533874	172.6571	179.8720	-0.0015	-0.0073	2.5 1.9	3574
1533970	172.7308	180.3425	-0.0132	0.0042	4.3 4.8	3575
1536881	175.5009	179.6207	-0.0032	0.0006	3.6 1.3	3576
1543000	172.0808	181.2735	-0.0138	0.0063	2.8 2.2	3577
1550305	170.0173	193.1678	0.0004	0.0052	2.9 3.8	3578
1551224	170.9084	192.1458	-0.0134	-0.0037	3.6 2.5	3579
1554785	174.5361	196.6251	-0.0033	0.0038	3.7 5.7	3580
1554808	173.9101	197.7154	-0.0051	0.0118	3.6 0.7	3581
1555836	175.0135	197.6087	-0.0020	0.0126	4.3 5.8	3582
1559992	179.3433	198.1932	-0.0005	0.0038	6.7 9.9	3583
1563836	173.9281	206.4076	-0.0022	0.0050	5.5 9.9	3584
1564576	175.0047	203.8027	-0.0012	0.0049	3.7 3.1	3585
1565013	174.9950	199.1115	-0.0021	0.0046	4.3 3.3	3586
1567403	176.9778	202.7045	-0.0018	-0.0031	4.3 1.0	3587
1567869	178.0375	206.6932	-0.0005	0.0044	3.9 3.9	3588
1572153	173.4725	208.7666	-0.0062	0.0028	9.9 8.2	3589
1573150	174.3347	208.6511	-0.0032	0.0033	5.1 3.4	3590
1575059	176.1938	208.4634	0.0009	0.0097	3.1 2.4	3591
1577271	178.4591	209.6127	0.0006	0.0060	4.5 3.6	3592
1578546	179.5901	212.8046	0.0008	0.0050	9.9 3.1	3593
1581156	173.6640	217.9339	-0.0037	0.0072	3.8 6.8	3594
1584044	176.3929	217.0402	-0.0065	0.0035	6.1 2.1	3595
1604688	182.0536	152.4746	-0.0058	-0.0015	2.5 1.8	3596
1604927	181.5897	154.8936	-0.0124	0.0066	1.9 1.0	3597
1606614	183.2825	152.1181	-0.0052	0.0063	2.1 2.2	3598
1611666	179.2620	160.9501	-0.0119	-0.0029	3.8 2.3	3599
1613774	181.1840	161.6683	-0.0142	0.0007	1.4 2.9	3600
1625341	182.8970	166.5989	-0.0010	0.0004	4.3 5.4	3601
1627224	184.5304	166.0424	0.0076	0.0125	1.9 2.2	3602
1629476	186.8973	167.9310	0.0076	-0.0050	4.0 2.2	3603
1630010	178.2009	172.6097	0.0099	0.0017	1.7 3.6	3604
1631305	179.1874	175.6409	0.0069	0.0065	6.4 6.4	3605
1631517	179.2724	177.6011	0.0103	0.0001	6.8 4.7	3606
1632060	180.5019	172.5655	-0.0034	-0.0090	4.1 1.0	3607
1636098	184.5126	173.3525	0.0062	-0.0019	4.3 2.5	3608
1636516	183.9294	177.5043	0.0074	-0.0090	4.2 3.5	3609
1637054	185.0121	173.0093	0.0039	0.0045	3.2 2.0	3610
1638080	186.2484	172.6913	0.0064	-0.0046	6.9 3.0	3611
1638195	186.3506	174.0345	0.0074	0.0064	3.3 2.8	3612
1639822	186.8388	179.8496	0.0021	-0.0041	4.4 2.1	3613
1644691	183.2497	186.7235	0.0080	0.0005	3.5 4.0	3614
1647616	185.3299	187.2062	0.0102	0.0019	4.7 4.0	3615
1648588	186.7737	186.5031	-0.0024	0.0071	2.2 2.8	3616
1650452	179.5600	193.7831	0.0100	-0.0129	3.0 4.4	3617
1650947	179.8192	198.6751	0.0008	-0.0046	9.6 5.7	3618
1652448	181.4229	194.2816	0.0101	0.0012	2.0 2.5	3619
1653039	181.9468	190.9349	-0.0033	-0.0058	2.5 1.8	3620
1653269	182.3770	192.6499	-0.0120	0.0094	2.5 2.5	3621
1654142	182.9916	191.1859	-0.0032	0.0108	4.6 1.0	3622
1654985	183.9761	198.5715	-0.0116	0.0106	2.5 1.4	3623
1660925	180.5537	207.3099	0.0000	0.0042	9.9 3.8	3624
1662571	182.4391	203.5233	-0.0079	0.0052	5.2 9.9	3625
1666846	186.3962	206.7394	-0.0001	0.0055	3.0 6.3	3626

Ref	x'	y'	ξ	η	ζ	Ser
1461456	32.0927	54.8339	0.41483	0.64649	0.64028	3554
1462758	33.2368	57.6518	0.42532	0.67830	0.59917	3555
1462965	33.4193	59.1821	0.42606	0.69560	0.57846	3556
1470411	31.5134	63.1531	0.40136	0.74072	0.53874	3557
1472658	33.8948	65.6840	0.42486	0.76892	0.47777	3558
1473167	34.4670	61.0248	0.43594	0.71630	0.54486	3559
1473253	34.4947	61.6614	0.43564	0.72348	0.53553	3560
1473729	34.6778	66.5906	0.43235	0.77899	0.45414	3561
1475034	35.9743	59.9543	0.45349	0.70399	0.54657	3562
1481507	33.6472	73.5190	0.41096	0.85660	0.31200	3563
1484219	36.0699	71.0613	0.44116	0.82878	0.34424	3564
1485373	37.5441	71.4652	0.45617	0.83294	0.31324	3565
1500308	38.1555	1.7006	0.49987	0.03806	0.86526	3566
1503826	41.0306	5.8712	0.53158	0.08573	0.84266	3567
1510688	38.9523	13.0045	0.50772	0.16799	0.84498	3568
1511584	39.8169	11.8195	0.51749	0.15427	0.84166	3569
1514744	42.2589	13.5803	0.54431	0.17419	0.82060	3570
1514769	42.3933	14.0425	0.54573	0.17948	0.81852	3571
1532935	40.7431	32.8773	0.52248	0.39543	0.75541	3572
1533005	41.1936	24.9866	0.53005	0.30513	0.79117	3573
1533874	42.0119	31.8877	0.53687	0.38396	0.75123	3574
1533970	42.0831	32.3587	0.53748	0.38933	0.74802	3575
1536881	44.8582	31.6509	0.56832	0.38086	0.72936	3576
1543000	41.4278	33.2867	0.52989	0.40002	0.74780	3577
1550305	39.2991	45.1747	0.50078	0.53586	0.67976	3578
1551224	40.1961	44.1570	0.51123	0.52416	0.68110	3579
1554785	43.8010	48.6566	0.54806	0.57479	0.60766	3580
1554808	43.1689	49.7441	0.54041	0.58724	0.60258	3581
1555836	44.2733	49.6430	0.55254	0.58591	0.59280	3582
1559992	48.6016	50.2501	0.59906	0.59201	0.53912	3583
1563836	43.1399	58.4396	0.53301	0.68571	0.49568	3584
1564576	44.2310	55.8393	0.54722	0.65613	0.51966	3585
1565013	44.2466	51.1463	0.55117	0.60297	0.57675	3586
1567403	46.2108	54.7508	0.56958	0.64344	0.51143	3587
1567869	47.2493	58.7465	0.57688	0.68833	0.43979	3588
1572153	42.6713	60.7971	0.52557	0.71239	0.46506	3589
1573150	43.5345	60.6860	0.53499	0.71097	0.45642	3590
1575059	45.3953	60.5078	0.55515	0.70857	0.43559	3591
1577271	47.6553	61.6692	0.57780	0.72109	0.38234	3592
1578546	48.7695	64.8681	0.58480	0.75651	0.29275	3593
1581156	42.8133	69.9687	0.51416	0.81494	0.26742	3594
1584044	45.5481	69.0888	0.54396	0.80432	0.23910	3595
1604688	51.5603	4.5286	0.64772	0.06871	0.75877	3596
1604927	51.0831	6.9461	0.64231	0.09662	0.76033	3597
1606614	52.7916	4.1784	0.66121	0.06446	0.74743	3598
1611666	48.7217	12.9929	0.61567	0.16652	0.77021	3599
1613774	50.6406	13.7212	0.63659	0.17457	0.75119	3600
1625341	52.3276	18.6625	0.65406	0.23098	0.72032	3601
1627224	53.9646	18.1142	0.67202	0.22439	0.70572	3602
1629476	56.3222	20.0157	0.69716	0.24573	0.67348	3603
1630010	47.5971	24.6513	0.60073	0.30038	0.74087	3604
1631305	48.5676	27.6887	0.61043	0.33499	0.71775	3605
1631517	48.6421	29.6500	0.61056	0.35740	0.70674	3606
1632060	49.8993	24.6189	0.62597	0.29964	0.71999	3607
1636098	53.9073	25.4269	0.66941	0.30817	0.67596	3608
1636516	53.3014	29.5772	0.66138	0.35575	0.66032	3609
1637054	54.4088	25.0862	0.67496	0.30418	0.67224	3610
1638080	55.6473	24.7744	0.68849	0.30036	0.66013	3611
1638195	55.7423	26.1186	0.68907	0.31572	0.65230	3612
1639822	56.1993	31.9384	0.69176	0.38213	0.61273	3613
1644691	52.5716	38.7963	0.64930	0.46107	0.60484	3614
1647616	54.6500	39.2899	0.67144	0.46626	0.57599	3615
1648588	56.0981	38.5940	0.68738	0.45802	0.56367	3616
1650452	48.8422	45.8395	0.60477	0.54191	0.58359	3617
1650947	49.0751	50.7346	0.60379	0.59741	0.52777	3618
1652448	50.7032	46.3478	0.62455	0.54732	0.55711	3619
1653039	51.2454	43.0025	0.63256	0.50920	0.58359	3620
1653269	51.6665	44.7204	0.63603	0.52864	0.56214	3621
1654142	52.2892	43.2590	0.64367	0.51191	0.56889	3622
1654985	53.2342	50.6524	0.64840	0.59555	0.47423	3623
1660925	49.7632	59.3764	0.60284	0.69480	0.39221	3624
1662571	51.6698	55.5981	0.62716	0.65179	0.42643	3625
1666846	55.6110	58.8358	0.66417	0.68693	0.29497	3626

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
1668077	187.7284	199.6345	0.0019	-0.0031	9.9 1.6	3627
1668586	188.4220	203.9992	0.0000	-0.0077	6.1 3.8	3628
1668994	188.9963	207.4244	-0.0053	0.0072	1.5 2.4	3629
1672178	183.1557	209.4090	-0.0002	0.0111	3.1 2.3	3630
1673068	183.8822	208.5886	0.0012	0.0050	3.9 4.2	3631
1702558	189.1745	151.6216	-0.0027	-0.0056	2.6 4.7	3632
1705392	192.3053	149.4732	0.0043	0.0137	2.9 3.7	3633
1706046	192.7200	147.1889	-0.0085	0.0053	2.4 3.3	3634
1708031	194.4625	146.8102	0.0037	0.0024	4.4 9.9	3635
1708122	194.4573	147.6839	0.0041	0.0043	7.8 2.0	3636
1711048	188.1604	155.9701	0.0095	0.0036	3.2 2.2	3637
1714562	191.2283	159.8484	-0.0149	0.0064	6.8 2.4	3638
1715286	192.3168	157.6298	0.0041	-0.0060	4.3 2.5	3639
1715894	192.5127	162.6683	-0.0034	0.0102	4.2 2.3	3640
1718504	194.4092	160.0426	0.0016	0.0003	2.5 1.8	3641
1720728	187.4416	170.7123	0.0035	-0.0063	1.7 2.4	3642
1724734	191.2139	170.4426	-0.0051	0.0071	1.7 5.7	3643
1727238	194.0044	166.4932	-0.0023	0.0053	2.5 3.3	3644
1728591	195.4739	168.5542	0.0149	-0.0013	2.7 1.6	3645
1735371	192.7240	175.4538	0.0045	0.0050	2.5 1.8	3646
1736112	193.0007	173.8989	-0.0068	0.0092	2.3 5.1	3647
1737833	194.4771	180.0831	0.0044	0.0012	8.1 3.9	3648
1737891	195.0726	179.8828	0.0001	0.0060	4.8 1.9	3649
1741872	189.6992	188.7079	0.0022	0.0020	6.5 3.4	3650
1742108	189.6235	183.0421	-0.0008	0.0038	6.8 1.4	3651
1743566	191.3066	186.3877	0.0057	-0.0003	4.1 2.2	3652
1744044	191.8247	181.8186	0.0006	-0.0032	1.8 1.9	3653
1744572	192.3112	186.0462	-0.0112	-0.0085	2.0 3.0	3654
1744962	192.5079	189.6215	0.0103	0.0088	1.1 5.6	3655
1745169	192.9565	183.1225	0.0079	-0.0027	3.6 1.5	3656
1745929	193.0923	190.2369	0.0000	-0.0035	3.8 1.7	3657
1746077	194.0634	182.1645	0.0056	-0.0029	5.0 4.3	3658
1746304	193.5144	184.5329	-0.0119	-0.0063	5.0 3.4	3659
1748927	195.9827	190.1483	0.0059	0.0035	3.1 1.2	3660
1750597	189.4658	195.3136	0.0087	-0.0114	1.5 2.2	3661
1750934	189.1418	198.5156	0.0087	0.0064	2.6 3.3	3662
1751743	190.0076	196.6725	0.0082	-0.0018	5.9 9.5	3663
1752294	191.1388	192.3560	-0.0011	-0.0001	3.1 2.3	3664
1754844	193.0538	197.8020	0.0043	-0.0045	3.7 4.7	3665
1755718	193.7341	197.3181	-0.0020	-0.0061	2.3 2.8	3666
1756509	194.4255	195.5587	0.0046	0.0026	3.4 2.0	3667
1756576	195.0366	195.3523	0.0012	-0.0020	3.9 2.9	3668
1757101	194.9545	191.3238	0.0145	0.0019	2.9 2.5	3669
1757477	195.9757	194.5239	-0.0054	0.0065	6.6 1.8	3670
1759707	197.6539	197.2825	0.0024	0.0072	2.8 1.6	3671
1760449	189.8516	203.4627	0.0009	0.0001	1.3 0.7	3672
1762551	192.0075	203.6782	-0.0075	-0.0060	2.3 4.5	3673
1763329	192.5365	202.6280	0.0145	0.0103	1.6 1.5	3674
1764325	193.5643	202.2971	0.0100	0.0012	4.2 1.9	3675
1801927	197.3326	155.1589	0.0098	0.0018	3.8 5.5	3676
1802972	198.6823	154.7907	0.0018	-0.0002	3.7 2.1	3677
1803578	199.6170	151.7780	0.0102	-0.0049	4.3 4.0	3678
1807350	203.2820	149.4366	0.0133	-0.0029	5.3 4.1	3679
1809610	204.7900	152.1343	0.0000	-0.0020	2.4 1.6	3680
1809844	205.1413	154.1683	-0.0020	0.0042	4.0 2.6	3681
1815060	201.5717	155.5043	-0.0051	0.0004	2.9 8.2	3682
1816300	201.9436	158.1306	-0.0026	0.0054	3.1 2.2	3683
1817154	203.3102	156.7629	0.0104	0.0054	2.5 5.5	3684
1818471	204.5270	159.1341	-0.0016	0.0031	2.3 3.0	3685
1819063	205.4127	155.8727	-0.0042	0.0022	3.5 2.6	3686
1819573	205.5972	160.2260	-0.0103	0.0104	3.0 1.7	3687
1819694	205.7750	161.1881	-0.0120	0.0093	1.5 1.8	3688
1831915	198.1577	181.1634	0.0079	-0.0055	4.8 4.9	3689
1835654	202.3137	178.5988	-0.0010	0.0036	2.4 2.9	3690
1836994	203.9154	181.2620	0.0084	-0.0055	5.0 8.1	3691
1840427	197.6410	185.7821	0.0002	-0.0041	1.5 2.6	3692
1841361	198.8793	184.3517	-0.0012	0.0135	3.3 6.3	3693
1841955	199.2806	190.0455	0.0069	0.0066	3.1 1.1	3694
1842661	200.0793	187.0354	0.0019	-0.0083	8.7 1.6	3695
1843625	200.7715	187.4287	0.0132	-0.0011	2.8 4.1	3696
1845336	202.6699	184.9836	0.0098	-0.0031	3.0 2.0	3697
1848000	205.0872	181.8349	0.0010	-0.0034	1.6 1.4	3698
1848132	205.5380	182.9913	0.0002	0.0006	5.0 2.5	3699

POSITIONS ON THE DISK

4b

Ref	x'	y'	ξ	η	ζ	Ser
1668077	56.9822	51.7352	0.68691	0.60678	0.39997	3627
1668586	57.6524	56.1050	0.68875	0.65566	0.30941	3628
1668994	58.2084	59.5344	0.68877	0.69357	0.21108	3629
1672178	52.3548	61.4897	0.62699	0.71769	0.30298	3630
1673068	53.0860	60.6727	0.63571	0.70833	0.30683	3631
1702558	58.6886	3.7121	0.72534	0.05792	0.68595	3632
1705392	61.8322	1.5790	0.75933	0.03262	0.64988	3633
1706046	62.2594	-0.7040	0.76397	0.00619	0.64522	3634
1708031	64.0046	-1.0738	0.78267	0.00148	0.62244	3635
1708122	63.9947	-0.1998	0.78256	0.01157	0.62247	3636
1711048	57.6505	8.0569	0.71374	0.10815	0.69201	3637
1714562	60.6987	11.9525	0.74611	0.15227	0.64818	3638
1715286	61.7996	9.7387	0.75828	0.12656	0.63953	3639
1715894	61.9683	14.7800	0.75922	0.18443	0.62415	3640
1718504	63.8797	12.1631	0.78017	0.15391	0.60634	3641
1720728	56.8517	22.8008	0.70212	0.27753	0.65574	3642
1724734	60.6269	22.5505	0.74285	0.27382	0.61090	3643
1727238	63.4399	18.6140	0.77406	0.22804	0.59062	3644
1728591	64.8988	20.6834	0.78898	0.25136	0.56065	3645
1735371	62.1105	27.5713	0.75692	0.33088	0.56355	3646
1736112	62.3957	26.0173	0.76056	0.31305	0.56881	3647
1737833	63.8393	32.2114	0.77312	0.38336	0.50529	3648
1737891	64.4361	32.0141	0.77950	0.38094	0.49725	3649
1741872	59.0129	40.8147	0.71713	0.48257	0.50285	3650
1742108	58.9678	35.1464	0.71994	0.41809	0.55397	3651
1743566	60.6334	38.5019	0.73575	0.45586	0.50087	3652
1744044	61.1764	33.9338	0.74408	0.40372	0.53232	3653
1744572	61.6403	38.1655	0.74658	0.45175	0.48840	3654
1744962	61.8177	41.7431	0.74603	0.49233	0.44839	3655
1745169	62.3016	35.2440	0.75528	0.41833	0.50452	3656
1745929	62.3990	42.3618	0.75163	0.49916	0.43115	3657
1746077	63.4142	34.2914	0.76754	0.40717	0.49507	3658
1746304	62.8521	36.6578	0.76026	0.43427	0.48313	3659
1748927	65.2910	42.2880	0.78156	0.49735	0.37658	3660
1750597	58.7436	47.4216	0.70934	0.55755	0.43126	3661
1750934	58.4022	50.6231	0.70281	0.59380	0.39174	3662
1751743	59.2783	48.7838	0.71369	0.57278	0.40319	3663
1752294	60.4333	44.4716	0.72947	0.52366	0.44007	3664
1754844	62.3196	49.9294	0.74375	0.58463	0.32411	3665
1755718	63.0028	49.4489	0.75120	0.57896	0.31703	3666
1756509	63.7039	47.6924	0.76023	0.55893	0.33113	3667
1756576	64.3164	47.4891	0.76663	0.55639	0.32047	3668
1757101	64.2561	43.4587	0.76995	0.51096	0.38224	3669
1757477	65.2603	46.6652	0.77701	0.54673	0.31199	3670
1759707	66.9243	49.4335	0.78961	0.57689	0.20911	3671
1760449	59.0855	55.5757	0.70396	0.64918	0.28811	3672
1762551	61.2411	55.8024	0.72488	0.65073	0.22606	3673
1763329	61.7760	54.7545	0.73181	0.63883	0.23739	3674
1764325	62.8060	54.4288	0.74228	0.63468	0.21495	3675
1801927	66.8307	7.2927	0.81227	0.09712	0.57514	3676
1802972	68.1829	6.9313	0.82661	0.09256	0.55511	3677
1803578	69.1343	3.9224	0.83692	0.05762	0.54429	3678
1807350	72.8134	1.5990	0.87548	0.02959	0.48235	3679
1809610	74.3074	4.3055	0.89071	0.06022	0.45057	3680
1809844	74.6478	6.3420	0.89398	0.08353	0.44025	3681
1815060	71.0696	7.6601	0.85681	0.10002	0.50583	3682
1816300	71.4274	10.2893	0.86013	0.13013	0.49319	3683
1817154	72.8020	8.9281	0.87462	0.11399	0.47122	3684
1818471	74.0064	11.3065	0.88658	0.14086	0.44061	3685
1819063	74.9101	8.0485	0.89642	0.10306	0.43105	3686
1819573	75.0711	12.4043	0.89720	0.15303	0.41426	3687
1819694	75.2438	13.3677	0.89871	0.16401	0.40671	3688
1831915	67.5155	33.3110	0.81090	0.39473	0.43201	3689
1835654	71.6870	30.7669	0.85510	0.36421	0.36899	3690
1836994	73.2749	33.4394	0.86901	0.39379	0.29959	3691
1840427	66.9736	37.9288	0.80225	0.44736	0.39530	3692
1841361	68.2201	36.5042	0.81604	0.43074	0.38542	3693
1841955	68.5908	42.2022	0.81489	0.49502	0.30151	3694
1842661	69.4061	39.1951	0.82586	0.46072	0.32511	3695
1843625	70.0964	39.5921	0.83234	0.46488	0.30180	3696
1845336	72.0088	37.1559	0.85340	0.43645	0.28499	3697
1848000	74.4440	34.0185	0.87981	0.39970	0.25723	3698
1848132	74.8888	35.1777	0.88286	0.41249	0.22453	3699

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
1853210	201.2937	192.4218	-0.0133	0.0086	4.1 1.1	3700
1901388	207.5772	150.2847	0.0084	0.0055	2.9 1.8	3701
1902205	207.5814	149.2302	-0.0115	0.0001	3.6 1.7	3702
1904580	210.6094	151.5096	-0.0074	0.0079	7.3 1.4	3703
1904895	210.6948	154.5306	-0.0053	0.0097	2.5 1.2	3704
1904997	210.6548	155.5588	-0.0039	-0.0018	3.4 2.4	3705
1905488	211.5401	151.3465	0.0059	0.0122	3.7 2.1	3706
1910102	205.8112	156.7000	-0.0076	0.0038	2.7 1.2	3707
1910384	206.6567	158.6059	0.0132	0.0018	2.6 1.2	3708
1910997	206.9486	164.0989	0.0073	0.0008	3.5 0.9	3709
1912746	208.3834	162.3392	-0.0075	0.0033	4.9 3.3	3710
1913431	209.0948	159.3488	0.0051	0.0056	1.7 3.7	3711
1914558	210.4855	160.8419	0.0009	-0.0113	5.5 1.3	3712
1914756	210.4758	162.4542	-0.0011	0.0077	3.8 2.3	3713
1915577	211.7613	160.8667	-0.0036	-0.0048	3.2 2.2	3714
1916213	211.9690	157.8596	-0.0027	-0.0012	3.1 2.8	3715
1920030	206.3503	164.3553	0.0073	0.0098	1.5 2.0	3716
1923381	210.0268	167.2316	0.0022	-0.0011	3.9 2.3	3717
2008909	117.7330	155.0459	-0.0091	0.0041	3.2 1.9	3718
2012507	122.9925	160.0856	-0.0130	0.0014	2.0 1.9	3719
2014004	121.1583	155.5046	-0.0068	0.0063	4.0 4.4	3720
2014128	121.0625	156.6870	-0.0015	-0.0001	9.9 3.3	3721
2015532	120.1453	159.7365	-0.0098	-0.0003	3.1 2.6	3722
2016111	119.3893	156.1453	-0.0032	0.0019	2.1 1.5	3723
2023537	122.0771	168.8756	-0.0007	-0.0098	1.6 2.5	3724
2023916	122.3039	172.2193	-0.0030	-0.0127	2.3 1.9	3725
2027762	118.4123	170.1765	-0.0106	0.0038	5.0 2.0	3726
2028442	117.6215	167.6310	-0.0013	-0.0044	3.3 1.6	3727
2049780	117.0464	187.4784	-0.0043	-0.0034	2.7 1.6	3728
2052224	123.7606	192.1410	-0.0122	-0.0073	5.4 1.4	3729
2053392	122.3360	192.8939	0.0007	-0.0087	2.7 2.4	3730
2059974	117.6939	198.3802	-0.0100	-0.0030	2.6 9.6	3731
2060324	126.1057	201.7625	-0.0060	-0.0023	3.7 1.7	3732
2064627	122.8177	204.7556	-0.0031	-0.0077	3.8 8.7	3733
2067352	119.7112	201.7091	-0.0045	0.0045	4.8 8.0	3734
2070831	126.9540	214.7309	-0.0085	-0.0053	2.0 4.7	3735
2075524	122.5325	212.4667	-0.0071	-0.0095	5.9 5.6	3736
2078631	119.9059	213.0464	-0.0082	-0.0139	4.7 3.7	3737
2082200	125.8968	218.2210	-0.0032	-0.0016	3.6 2.1	3738
2090221	128.4282	227.1924	-0.0100	0.0007	3.5 3.7	3739
2134231	112.7660	174.4734	-0.0058	0.0004	8.7 7.6	3740
2144505	113.3757	186.1994	-0.0040	-0.0071	4.2 2.6	3741
2144559	112.9541	186.6013	-0.0124	-0.0090	5.0 4.1	3742
2152482	114.7647	193.8538	-0.0100	-0.0067	5.8 3.4	3743
2160845	117.5723	206.3359	0.0044	-0.0029	2.9 1.4	3744
2163802	115.3094	206.0795	-0.0020	-0.0013	6.8 1.5	3745
2164817	114.3878	206.5624	-0.0089	-0.0082	3.2 1.8	3746
2166348	112.2088	202.3335	0.0051	-0.0013	2.5 0.9	3747
2178224	111.1807	209.9373	0.0140	-0.0068	2.9 2.0	3748
2181134	117.7695	217.7938	-0.0034	-0.0113	2.5 2.4	3749
2200308	107.4309	149.8802	-0.0076	0.0030	5.4 3.8	3750
2200384	106.7419	149.6061	-0.0022	0.0029	3.3 1.1	3751
2200549	107.1227	151.6478	-0.0063	-0.0078	7.1 3.0	3752
2206126	102.1257	148.0993	-0.0124	-0.0011	5.8 1.8	3753
2244200	104.7990	183.2304	-0.0016	-0.0030	2.1 2.2	3754
2248426	101.2450	185.5214	-0.0148	-0.0085	3.3 4.2	3755
2251179	107.0571	191.8722	-0.0017	-0.0026	4.4 2.8	3756
2253414	106.0128	194.0836	-0.0058	-0.0094	3.7 2.1	3757
2261754	108.0601	205.4625	0.0004	-0.0068	3.3 2.7	3758
2286120	105.1683	217.5658	-0.0096	-0.0020	3.2 4.2	3759
2289585	102.6280	221.5998	-0.0024	0.0096	2.6 3.1	3760
2302117	97.1271	148.2194	-0.0056	0.0037	2.4 3.4	3761
2306549	93.5565	151.9437	-0.0034	0.0001	3.9 2.4	3762
2322452	97.0682	167.8243	-0.0135	0.0022	6.1 8.1	3763
2324993	95.1256	172.3303	0.0040	-0.0028	1.9 2.6	3764
2332591	97.0256	177.3771	-0.0084	-0.0012	8.7 3.6	3765
2335022	94.9067	173.0603	-0.0046	-0.0072	3.8 3.1	3766
2344655	96.0487	187.2547	0.0081	-0.0076	2.5 1.7	3767
2344797	95.8012	188.3790	-0.0088	-0.0050	3.1 2.1	3768
2353595	96.9828	195.1828	-0.0123	0.0001	1.7 3.8	3769
2356748	94.9508	197.2361	-0.0087	-0.0076	3.6 5.3	3770
2414074	86.6623	155.8783	-0.0140	-0.0052	5.0 3.1	3771
2416163	85.0782	156.7320	-0.0042	-0.0073	2.5 1.0	3772

Ref	x'	y'	ξ	η	ζ	Ser
1853210	70.5918	44.5898	0.83118	0.52069	0.19501	3700
1901388	77.1057	2.4696	0.91931	0.03785	0.39172	3701
1902205	77.1156	1.4147	0.91946	0.02568	0.39234	3702
1904580	80.1324	3.7106	0.94914	0.05059	0.31076	3703
1904895	80.2015	6.7331	0.94939	0.08534	0.30227	3704
1904997	80.1559	7.7615	0.94876	0.09719	0.30067	3705
1905488	81.0644	3.5522	0.95811	0.04819	0.28232	3706
1910102	75.3043	8.8781	0.90030	0.11243	0.42049	3707
1910384	76.1398	10.7891	0.90840	0.13403	0.39604	3708
1910997	76.4021	16.2856	0.90950	0.19693	0.36609	3709
1912746	77.8470	14.5327	0.92444	0.17615	0.33821	3710
1913431	78.5748	11.5448	0.93249	0.14152	0.33233	3711
1914558	79.9580	13.0456	0.94546	0.15794	0.28490	3712
1914756	79.9396	14.6585	0.94470	0.17641	0.27645	3713
1915577	81.2342	13.0770	0.95747	0.15746	0.24178	3714
1916213	81.4582	10.0699	0.96056	0.12286	0.24946	3715
1920030	75.8022	16.5390	0.90340	0.20011	0.37923	3716
1923381	79.4646	19.4353	0.93802	0.23125	0.25815	3717
2008909	12.7994	6.7692	-0.08010	0.09825	0.99193	3718
2012507	-7.5651	11.8379	-0.01996	0.15666	0.98745	3719
2014004	-9.3752	7.2457	-0.04043	0.10384	0.99377	3720
2014128	-9.4775	8.4281	-0.04172	0.11743	0.99220	3721
2015532	-10.4115	11.4740	-0.05287	0.15241	0.98690	3722
2016111	-11.1484	7.8775	-0.06104	0.11105	0.99194	3723
2023537	-8.5284	20.6264	-0.03258	0.25749	0.96573	3724
2023916	-8.3196	23.9725	-0.03092	0.29585	0.95473	3725
2027762	12.2017	21.9089	-0.07545	0.27209	0.95931	3726
2028442	12.9790	19.3583	-0.08393	0.24283	0.96643	3727
2049780	-13.6617	39.2101	-0.09797	0.46994	0.87724	3728
2052224	-6.9701	43.9090	-0.02241	0.52374	0.85158	3729
2053392	-8.3993	44.6549	-0.03933	0.53221	0.84570	3730
2059974	-13.0729	50.1192	-0.09660	0.59430	0.79842	3731
2060324	-4.6761	53.5461	-0.00124	0.63350	0.77374	3732
2064627	-7.9816	56.5234	-0.04151	0.66726	0.74367	3733
2067352	-11.0728	53.4598	-0.07537	0.63237	0.77100	3734
2070831	-3.8976	66.5237	-0.00242	0.78063	0.62498	3735
2075524	-8.3086	64.2359	-0.05144	0.75467	0.65408	3736
2078631	-10.9394	64.8022	-0.08260	0.76099	0.64348	3737
2082200	-4.9741	70.0096	-0.01849	0.81995	0.57213	3738
2090221	-2.4903	78.9974	-0.00220	0.92073	0.39020	3739
2134231	-17.8734	26.1782	-0.14254	0.32077	0.93637	3740
2144505	-17.3269	37.9117	-0.14017	0.45496	0.87941	3741
2144559	17.7508	38.3116	-0.14529	0.45950	0.87621	3742
2152482	-15.9788	45.5761	-0.12798	0.54245	0.83028	3743
2160845	-13.2376	58.0772	-0.10381	0.68472	0.72137	3744
2163802	-15.5000	57.8091	-0.13006	0.68157	0.72010	3745
2164817	-16.4246	58.2874	-0.14125	0.68695	0.71284	3746
2166348	18.5815	54.0457	-0.16349	0.63868	0.75191	3747
2178224	19.6512	61.6470	-0.18191	0.72482	0.66448	3748
2181134	-13.1023	69.5404	-0.11273	0.81438	0.56928	3749
2200308	-23.0776	1.5485	-0.19970	0.03766	0.97913	3750
2200384	-23.7654	1.2707	-0.20775	0.03442	0.97758	3751
2200549	23.3955	3.3151	-0.20349	0.05798	0.97736	3752
2206126	-28.3752	-0.2604	-0.26188	0.01644	0.96496	3753
2244200	25.8909	34.8974	-0.23941	0.42001	0.87537	3754
2248426	-29.4587	37.1709	-0.28244	0.44568	0.84947	3755
2251179	-23.6787	43.5540	-0.21722	0.51895	0.82674	3756
2253414	-24.7353	45.7608	-0.23083	0.54402	0.80670	3757
2261754	-22.7488	57.1545	-0.21478	0.67369	0.70712	3758
2286120	-25.7072	69.2473	-0.26168	0.81007	0.52471	3759
2289585	-28.2703	73.2697	-0.29832	0.85480	0.42466	3760
2302117	-33.3764	-0.1661	-0.32091	0.01707	0.94695	3761
2306549	-36.9686	3.5412	-0.36363	0.05939	0.92965	3762
2322452	-33.5414	19.4457	-0.32511	0.24249	0.91406	3763
2324993	35.5091	23.9434	-0.34956	0.29384	0.88964	3764
2332591	33.6357	29.0018	-0.32884	0.35193	0.87636	3765
2335022	-35.7321	24.6725	-0.35241	0.30216	0.88572	3766
2344655	-34.6664	38.8780	-0.34501	0.46466	0.81551	3767
2344797	-34.9201	40.0015	-0.34857	0.47745	0.80656	3768
2353595	-33.7748	46.8138	-0.33861	0.55518	0.75968	3769
2356748	-35.8187	48.8574	-0.36432	0.57819	0.73005	3770
2414074	43.8867	7.4417	-0.44644	0.10342	0.88882	3771
2416163	-45.4761	8.2875	-0.46559	0.11293	0.87777	3772

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
2419754	82.7398	162.0946	-0.0031	0.0024	5.8 1.4	3773
2422182	88.3851	165.2835	-0.0014	-0.0062	2.3 2.6	3774
2425674	86.0611	169.8429	0.0126	-0.0054	7.1 3.7	3775
2427213	84.8235	166.3442	-0.0134	-0.0058	9.3 3.1	3776
2429655	82.9438	170.0147	0.0089	-0.0055	3.5 1.2	3777
2434975	87.3036	181.2869	-0.0060	0.0008	3.8 3.2	3778
2435605	86.9361	178.6629	-0.0085	0.0008	1.6 2.1	3779
2439534	83.3514	177.7470	-0.0115	-0.0039	2.7 3.5	3780
2446896	85.8539	189.2927	-0.0137	0.0029	5.6 3.4	3781
2449684	83.3162	187.3723	0.0068	-0.0014	3.2 2.5	3782
2452666	89.7416	196.2359	-0.0047	-0.0076	2.4 2.3	3783
2453284	88.5794	192.6165	0.0014	-0.0039	2.1 1.5	3784
2462074	89.8608	199.6229	-0.0038	-0.0032	5.3 4.5	3785
2500797	81.4327	153.6250	-0.0047	-0.0007	5.5 2.3	3786
2501063	80.7807	147.2811	-0.0114	-0.0064	6.1 1.9	3787
2509132	74.4789	148.1726	-0.0135	0.0035	2.2 1.8	3788
2509471	74.1367	150.7337	-0.0090	-0.0008	8.7 3.4	3789
2512631	80.3930	161.0080	-0.0084	-0.0049	4.4 4.3	3790
2518244	75.3353	157.9278	-0.0046	-0.0080	3.4 1.0	3791
2528557	75.5203	169.4240	-0.0079	-0.0062	6.3 2.9	3792
2530492	81.9813	176.7967	-0.0088	-0.0080	0.7 4.5	3793
2532564	80.5696	177.8135	0.0014	-0.0098	3.8 9.9	3794
2532610	81.0033	178.3680	0.0012	-0.0044	4.0 1.1	3795
2536507	77.8027	178.1473	0.0005	-0.0119	3.8 4.3	3796
2539615	75.3492	178.8779	-0.0115	0.0008	3.8 2.5	3797
2539663	74.9413	178.7211	-0.0103	0.0025	1.3 3.2	3798
2547958	77.2150	190.5116	-0.0145	-0.0134	2.4 3.4	3799
2550872	83.1942	197.7947	-0.0061	-0.0100	3.3 2.6	3800
2553453	80.6585	194.3662	0.0022	0.0002	2.3 3.2	3801
2604046	70.2861	147.7829	-0.0130	-0.0053	4.1 1.4	3802
2604896	69.9713	154.6796	-0.0102	-0.0009	2.7 2.8	3803
2608851	67.0504	154.3492	0.0026	-0.0042	2.5 2.7	3804
2610492	73.3144	159.4551	-0.0006	-0.0054	2.5 1.1	3805
2615764	69.5523	162.3941	-0.0036	-0.0141	7.1 4.5	3806
2619928	66.6520	164.5416	-0.0103	-0.0122	4.1 6.9	3807
2621913	73.4642	172.7129	0.0017	-0.0084	3.0 4.3	3808
2623991	71.1825	172.5378	0.0013	-0.0020	2.4 4.0	3809
2625706	70.3446	171.2772	-0.0054	-0.0081	2.9 3.4	3810
2629130	66.6179	165.6169	-0.0139	-0.0042	4.0 2.9	3811
2632358	72.4835	176.6538	-0.0096	-0.0080	2.6 1.9	3812
2645619	70.9492	188.1055	-0.0132	-0.0135	3.6 1.6	3813
2700221	65.6462	149.1477	-0.0057	-0.0003	2.1 1.3	3814
2702821	64.0560	154.4710	-0.0057	0.0036	3.0 2.3	3815
2703766	62.9711	154.0625	0.0121	0.0013	6.3 1.6	3816
2703919	63.4171	155.9992	-0.0015	0.0029	3.5 1.3	3817
2707691	59.5230	152.8802	0.0093	-0.0095	1.2 4.3	3818
2707980	59.6660	155.3567	-0.0034	-0.0017	5.7 2.0	3819
2713742	63.2789	162.3415	-0.0147	0.0015	9.9 7.1	3820
2720118	65.9860	166.3121	-0.0027	-0.0005	2.3 2.4	3821
2720841	65.9256	171.8369	0.0016	-0.0075	4.3 9.9	3822
2721309	65.3443	168.1347	0.0040	-0.0063	8.6 0.6	3823
2721452	64.9060	168.4151	0.0017	0.0018	1.3 1.4	3824
2725077	61.5182	165.4502	-0.0115	0.0007	2.1 1.8	3825
2727160	60.0197	165.8085	-0.0110	-0.0093	4.0 1.7	3826
2728909	60.0385	173.5315	-0.0124	-0.0067	3.5 3.2	3827
2733637	64.0399	179.3861	-0.0017	0.0000	3.3 1.7	3828
2735884	62.0669	180.9258	-0.0016	-0.0010	3.7 4.5	3829
2802233	56.0923	149.6968	0.0068	-0.0020	3.6 3.4	3830
2804088	54.1295	148.4273	-0.0076	0.0013	3.5 2.0	3831
2810369	57.5486	159.7040	-0.0037	-0.0098	4.2 4.3	3832
2810548	57.6997	161.3734	0.0133	-0.0097	3.0 3.0	3833
2811221	57.0974	158.1290	-0.0098	0.0038	3.9 3.3	3834
2817842	52.5672	163.6135	0.0100	0.0019	2.9 2.3	3835
2819480	50.6028	160.1328	-0.0148	-0.0022	6.2 4.4	3836
2827023	52.7559	165.4722	-0.0010	-0.0043	2.8 2.4	3837
2830755	58.4834	180.2886	-0.0025	-0.0059	3.2 1.6	3838
2831910	58.0677	181.6284	-0.0085	-0.0104	4.5 1.6	3839
2835640	54.7364	179.2078	-0.0016	-0.0098	3.3 1.0	3840
2902560	48.4206	152.3646	-0.0003	0.0003	3.0 2.8	3841
2905152	46.3364	149.2398	0.0052	-0.0042	3.8 3.9	3842
2905657	46.4129	154.0794	-0.0016	-0.0036	2.7 2.3	3843
2906250	45.7048	150.0288	0.0056	-0.0058	3.4 2.4	3844
2910948	50.3278	165.2143	0.0051	-0.0060	4.2 1.0	3845

Ref	x'	y'	ξ	η	ζ	Ser
2419754	-47.8444	13.6400	-0.49482	0.17409	0.85138	3773
2422182	-42.2141	16.8592	-0.42782	0.21184	0.87869	3774
2425674	-44.5637	21.4083	-0.45703	0.26369	0.84946	3775
2427213	-45.7829	17.9019	-0.47084	0.22331	0.85349	3776
2429655	-47.6831	21.5641	-0.49463	0.26501	0.82771	3777
2434975	-43.3826	32.8629	-0.44666	0.39492	0.80283	3778
2435605	-43.7361	30.2361	-0.44988	0.36485	0.81516	3779
2439534	-47.3172	29.3013	-0.49270	0.35363	0.79511	3780
2446896	-44.8762	40.8642	-0.46852	0.48598	0.73778	3781
2449684	-47.4045	38.9300	-0.49811	0.46353	0.73282	3782
2452666	-41.0245	47.8300	-0.42622	0.56582	0.70582	3783
2453284	-42.1676	44.2033	-0.43772	0.52441	0.73034	3784
2462074	-40.9236	51.2189	-0.42741	0.60433	0.67239	3785
2500797	49.1062	5.1606	-0.50899	0.07640	0.85738	3786
2501063	-49.7241	-1.1890	-0.51620	0.00314	0.85646	3787
2509132	-56.0332	-0.3297	-0.59277	0.01189	0.80528	3788
2509471	-56.3894	2.2306	-0.59719	0.04134	0.80103	3789
2512631	-50.1862	12.5409	-0.52291	0.16109	0.83703	3790
2518244	-55.2292	9.4335	-0.58367	0.12447	0.80239	3791
2528557	-55.1064	20.9349	-0.58457	0.25651	0.76973	3792
2530492	-48.6827	28.3436	-0.50886	0.34246	0.78980	3793
2532564	-50.1005	29.3535	-0.52644	0.35377	0.77312	3794
2532610	-49.6696	29.9105	-0.52142	0.36021	0.77354	3795
2536507	-52.8702	29.6732	-0.56029	0.35693	0.74745	3796
2539615	-55.3287	30.3914	-0.59068	0.36465	0.71981	3797
2539663	-55.7359	30.2324	-0.59561	0.36275	0.71670	3798
2547958	-53.5251	42.0390	-0.57481	0.49778	0.64947	3799
2550872	-47.5829	49.3556	-0.50703	0.58207	0.63570	3800
2553453	-50.1011	45.9128	-0.53534	0.54250	0.64738	3801
2604046	-60.2255	-0.7412	-0.64413	0.00625	0.76489	3802
2604896	-60.5778	6.1565	-0.64882	0.08564	0.75610	3803
2608851	-63.4980	5.8109	-0.68488	0.08096	0.72414	3804
2610492	-57.2592	10.9510	-0.60869	0.14151	0.78069	3805
2615764	-61.0387	13.8716	-0.65568	0.17423	0.73466	3806
2619928	-63.9517	16.0050	-0.69229	0.19799	0.69393	3807
2621913	57.1810	24.2144	-0.61102	0.29364	0.73514	3808
2623991	-59.4627	24.0275	-0.63906	0.29100	0.71198	3809
2625706	60.2941	22.7621	-0.64890	0.27632	0.70893	3810
2629130	-63.9916	17.0805	-0.69306	0.21032	0.68951	3811
2632358	-58.1834	28.1517	-0.62486	0.33845	0.70356	3812
2645619	-59.7803	39.5997	-0.65091	0.46856	0.59730	3813
2700221	-64.8746	0.6002	-0.70167	0.02056	0.71221	3814
2702821	-66.4943	5.9173	-0.72221	0.08138	0.68687	3815
2703766	-67.5774	5.5030	-0.73574	0.07630	0.67295	3816
2703919	-67.1417	7.4427	-0.73050	0.09875	0.67573	3817
2707691	-71.0204	4.3025	-0.77911	0.06139	0.62387	3818
2707980	-70.8908	6.7807	-0.77774	0.08997	0.62212	3819
2713742	-67.3142	13.7867	-0.73381	0.17161	0.65732	3820
2720118	-64.6275	17.7727	-0.70119	0.21809	0.67881	3821
2720841	-64.7179	23.2992	-0.70415	0.28135	0.65193	3822
2721309	-65.2794	19.5926	-0.70989	0.23876	0.66261	3823
2721452	-65.7193	19.8709	-0.71549	0.24183	0.65543	3824
2725077	-69.0924	16.8874	-0.75708	0.20663	0.61978	3825
2727160	-70.5935	17.2381	-0.77629	0.21016	0.59432	3826
2728909	-70.6164	24.9641	-0.77970	0.29851	0.55041	3827
2733637	66.6451	30.8414	-0.73203	0.36690	0.57403	3828
2735884	-68.6272	32.3715	-0.75835	0.38365	0.52699	3829
2802233	-74.4352	1.1002	-0.82266	0.02321	0.56806	3830
2804088	-76.3919	-0.1798	-0.84807	0.00761	0.52982	3831
2810369	-73.0325	11.1186	-0.80588	0.13908	0.57552	3832
2810548	-72.8904	12.7894	-0.80444	0.15832	0.57254	3833
2811221	73.4754	9.5407	-0.81125	0.12078	0.57209	3834
2817842	78.0370	15.0039	-0.87263	0.18145	0.45343	3835
2819480	-79.9833	11.5118	-0.89778	0.14035	0.41749	3836
2827023	77.8583	16.8642	-0.87099	0.20283	0.44748	3837
2830755	-72.2087	31.7156	-0.80459	0.37476	0.46064	3838
2831910	-72.6318	33.0538	-0.81128	0.38974	0.43580	3839
2835640	-75.9513	30.6151	-0.85412	0.36036	0.37499	3840
2902560	-82.1244	3.7295	-0.92566	0.04951	0.37510	3841
2905152	-84.1925	0.5928	-0.95545	0.01157	0.29492	3842
2905657	-84.1421	5.4345	-0.95540	0.06740	0.28752	3843
2906250	-84.8286	1.3788	-0.96535	0.01993	0.26021	3844
2910948	-80.2859	16.5937	-0.90410	0.19830	0.37852	3845

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
2912092	48.3037	156.9410	0.0075	-0.0066	3.7 3.8	3846
2915159	46.6070	158.5623	0.0006	-0.0063	1.5 0.9	3847
2916472	45.9873	160.7999	0.0050	0.0021	2.4 9.9	3848
2921812	50.2363	172.5415	-0.0024	-0.0061	3.2 1.3	3849
2925199	46.8368	167.3714	-0.0065	-0.0011	4.2 4.4	3850
3003559	121.4606	141.3402	-0.0094	0.0115	4.7 1.8	3851
3004334	120.8424	143.5469	-0.0053	-0.0017	6.0 1.5	3852
3005847	119.8042	138.9928	-0.0077	-0.0004	6.2 3.5	3853
3009506	116.8136	141.7019	-0.0139	-0.0076	3.6 2.8	3854
3011448	123.3720	133.7027	-0.0003	-0.0022	2.9 1.7	3855
3032858	122.7148	112.9476	-0.0104	0.0063	2.3 3.3	3856
3037697	117.9941	114.8072	-0.0014	0.0003	2.6 1.9	3857
3046553	119.3494	107.4313	-0.0105	-0.0026	3.3 1.4	3858
3065165	120.7859	93.6052	-0.0047	-0.0009	2.2 1.8	3859
3068334	118.5701	91.9711	-0.0007	-0.0014	4.0 5.6	3860
3074539	122.6802	81.4206	0.0021	-0.0058	2.0 0.8	3861
3082332	124.8837	75.1779	-0.0122	0.0048	1.9 2.1	3862
3090060	127.0709	69.5243	0.0088	-0.0032	4.3 1.7	3863
3100122	115.8096	145.5164	0.0043	0.0049	3.1 2.8	3864
3101997	114.2696	138.1429	-0.0131	0.0007	2.2 2.8	3865
3102487	113.5287	142.4780	-0.0119	0.0044	5.3 4.2	3866
3104301	112.4877	143.8689	-0.0051	-0.0001	3.7 1.3	3867
3104797	111.7478	139.8928	-0.0070	0.0051	3.7 3.1	3868
3105564	111.1194	141.8810	-0.0043	0.0004	4.0 1.4	3869
3111581	114.3788	133.5221	-0.0038	0.0043	7.5 3.0	3870
3112667	113.7434	132.0615	-0.0063	0.0069	2.8 2.5	3871
3115828	111.5085	130.2948	-0.0144	0.0036	4.2 3.7	3872
3116195	110.0543	136.6249	-0.0115	0.0010	2.0 2.5	3873
3121650	114.7489	124.0137	-0.0013	-0.0015	3.5 3.2	3874
3122788	113.6693	122.4742	-0.0096	0.0037	2.6 7.1	3875
3123626	113.3088	123.5599	0.0070	0.0008	3.0 1.4	3876
3125563	111.1592	124.7469	-0.0091	0.0045	3.0 2.1	3877
3129060	107.7810	129.3251	0.0001	0.0031	1.6 3.8	3878
3130018	116.0698	119.8890	-0.0019	-0.0012	4.0 1.1	3879
3133789	113.0243	113.7995	-0.0039	-0.0041	1.2 9.6	3880
3156725	111.4904	97.0618	-0.0021	-0.0071	1.7 0.8	3881
3164834	113.5850	87.8084	-0.0077	-0.0036	2.1 2.5	3882
3170963	117.4206	78.5768	-0.0012	0.0082	2.3 1.7	3883
3180138	117.8802	76.5111	0.0045	-0.0032	1.6 1.5	3884
3181514	117.6339	73.4839	0.0059	0.0004	2.1 3.0	3885
3185090	113.0468	77.9771	0.0080	-0.0014	2.6 4.7	3886
3185412	114.0366	74.5197	0.0025	0.0074	3.2 1.7	3887
3186437	113.0508	74.0755	-0.0147	0.0002	5.2 3.0	3888
3195531	115.3159	65.6817	-0.0052	-0.0069	1.2 3.6	3889
3202284	104.9582	144.5698	-0.0069	-0.0061	4.0 1.2	3890
3204238	103.6669	144.2524	-0.0113	0.0040	2.9 3.0	3891
3208293	99.8423	144.7292	-0.0037	0.0088	3.4 1.7	3892
3208308	100.5292	143.3852	-0.0136	0.0048	3.3 4.2	3893
3210753	106.9490	131.6314	-0.0085	-0.0013	2.2 1.2	3894
3217615	101.3891	132.4060	0.0006	0.0117	2.5 6.3	3895
3219757	99.3189	131.3962	-0.0118	0.0040	3.2 4.6	3896
3219913	99.6912	130.0309	-0.0106	-0.0052	3.4 3.8	3897
3224067	103.4855	128.7461	-0.0059	0.0018	5.8 2.7	3898
3224105	104.0006	128.0728	-0.0099	0.0001	3.0 1.9	3899
3225551	102.8038	124.9571	0.0010	0.0054	2.1 1.3	3900
3228355	100.2397	126.4103	-0.0106	-0.0018	2.3 4.2	3901
3229932	99.6184	121.4484	-0.0116	0.0053	1.5 2.4	3902
3230703	107.6707	114.4460	-0.0008	0.0068	4.0 3.2	3903
3231493	105.9595	116.9752	0.0017	0.0043	4.8 1.8	3904
3246575	102.1482	107.4224	-0.0090	0.0049	2.1 2.0	3905
3248280	100.3177	110.4372	-0.0126	0.0014	3.3 2.8	3906
3255031	103.5192	103.5023	0.0110	-0.0015	2.9 2.2	3907
3257058	101.6667	102.8506	-0.0096	-0.0003	3.0 1.4	3908
3257945	102.0582	95.4466	-0.0110	0.0048	2.4 1.8	3909
3262916	106.9926	86.8060	-0.0055	0.0012	2.7 1.0	3910
3263318	105.8782	91.7849	-0.0040	0.0040	1.7 1.2	3911
3268818	101.9621	87.6342	-0.0047	0.0128	2.2 1.1	3912
3274968	105.6481	78.3335	-0.0071	0.0089	3.7 1.9	3913
3275498	104.1461	82.5191	-0.0118	0.0057	2.5 2.8	3914
3276073	103.2300	86.3349	0.0010	0.0029	1.7 4.0	3915
3277902	103.6016	78.8727	-0.0100	0.0057	2.1 1.2	3916
3279009	101.2693	85.8762	-0.0115	0.0063	2.0 1.5	3917
3292151	108.5980	68.9738	0.0014	-0.0010	4.0 1.5	3918

Ref	x'	y'	ξ	η	ζ	Ser
2912092	-82.2661	8.3070	-0.92864	0.10205	0.35668	3846
2915159	83.9722	9.9201	-0.95443	0.11900	0.27368	3847
2916472	84.6042	12.1553	-0.96603	0.14366	0.21481	3848
2921812	-80.4171	23.9232	-0.91126	0.28150	0.30062	3849
2925199	-83.7900	18.7336	-0.95920	0.21905	0.17873	3850
3003559	-8.9962	-6.9223	-0.03579	-0.05935	0.99760	3851
3004334	-9.6266	-4.7180	-0.04301	-0.03394	0.99850	3852
3005847	10.6406	-9.2791	-0.05498	-0.08659	0.99473	3853
3009506	-13.6470	-6.5844	-0.08972	-0.05560	0.99441	3854
3011448	-7.0427	-14.5528	-0.01383	-0.14743	0.98898	3855
3032858	-7.5879	-35.3189	-0.02478	-0.38828	0.92121	3856
3037697	-12.3205	-33.4830	-0.07907	-0.36707	0.92683	3857
3046553	10.9248	-40.8546	-0.06553	-0.45289	0.88916	3858
3065165	-9.4130	-54.6784	-0.05510	-0.61465	0.78687	3859
3068334	11.6208	-56.3245	-0.08186	-0.63411	0.76890	3860
3074539	-7.4520	-66.8577	-0.04180	-0.75840	0.65044	3861
3082332	-5.2139	-73.0913	-0.02257	-0.83269	0.55328	3862
3090060	-2.9953	-78.7357	-0.00504	-0.90077	0.43427	3863
3100122	-14.6720	-2.7737	-0.10154	-0.01169	0.99476	3864
3101997	-16.1727	-10.1579	-0.11933	-0.09695	0.98811	3865
3102487	-16.9374	-5.8250	-0.12798	-0.04698	0.99066	3866
3104301	-17.9863	-4.4390	-0.14017	-0.03104	0.98964	3867
3104797	-18.7050	-8.4203	-0.14873	-0.07702	0.98587	3868
3105564	-19.3444	-6.4346	-0.15609	-0.05413	0.98626	3869
3111581	16.0385	-14.7798	-0.11823	-0.15036	0.98154	3870
3112667	-16.6662	-16.2442	-0.12574	-0.16732	0.97785	3871
3115828	-18.8924	-18.0231	-0.15197	-0.18803	0.97034	3872
3116195	-20.3814	-11.6982	-0.16857	-0.11497	0.97896	3873
3121650	-15.6168	-24.2898	-0.11495	-0.26046	0.95862	3874
3122788	-16.6885	-25.8354	-0.12779	-0.27844	0.95191	3875
3123626	-17.0550	-24.7512	-0.13182	-0.26588	0.95495	3876
3125563	19.2119	-23.5748	-0.15674	-0.25236	0.95486	3877
3129060	-22.6162	-19.0124	-0.19570	-0.19971	0.96011	3878
3130018	14.2731	-28.4092	-0.10030	-0.30819	0.94602	3879
3133789	17.2868	-34.5166	-0.13726	-0.37934	0.91502	3880
3156725	-18.7308	-51.2684	-0.16178	-0.57514	0.80190	3881
3164834	-16.5853	-60.5144	-0.14295	-0.68381	0.71552	3882
3170963	-12.6983	-69.7296	-0.10595	-0.79288	0.60010	3883
3180138	-12.2273	-71.7937	-0.10281	-0.81751	0.56666	3884
3181514	12.4574	-74.8233	-0.10946	-0.85392	0.50876	3885
3185090	17.0706	-70.3521	-0.15808	-0.80069	0.57785	3886
3185412	-16.0617	-73.8057	-0.15054	-0.84201	0.51803	3887
3186437	17.0455	-74.2551	-0.16282	-0.84753	0.50515	3888
3195531	14.7341	-82.6403	-0.15215	-0.95015	0.27215	3889
3202284	-25.5225	-3.7766	-0.22835	-0.02387	0.97329	3890
3204238	26.8126	-4.1008	-0.24351	-0.02771	0.96950	3891
3208293	-30.6413	-3.6436	-0.28860	-0.02276	0.95718	3892
3208308	-29.9468	-4.9845	-0.28045	-0.03816	0.95911	3893
3210753	-23.4610	-16.7095	-0.20523	-0.17311	0.96328	3894
3217615	-29.0272	-15.9633	-0.27057	-0.16492	0.94847	3895
3219757	-31.0928	-16.9842	-0.29510	-0.17693	0.93894	3896
3219913	-30.7129	-18.3480	-0.29083	-0.19269	0.93717	3897
3224067	-26.9102	-19.6137	-0.24623	-0.20700	0.94685	3898
3224105	-26.3913	-20.2846	-0.24024	-0.21473	0.94666	3899
3225551	-27.5717	-23.4077	-0.25477	-0.25103	0.93385	3900
3228355	-30.1446	-21.9671	-0.28481	-0.23457	0.92944	3901
3229932	-30.7393	-26.9341	-0.29302	-0.29226	0.91034	3902
3230703	22.6460	-33.8975	-0.19978	-0.37250	0.90627	3903
3231493	-24.3716	-31.3762	-0.21923	-0.34330	0.91328	3904
3246575	-28.1327	-40.9522	-0.26715	-0.45523	0.84935	3905
3248280	-29.9802	-37.9457	-0.28772	-0.42033	0.86054	3906
3255031	-26.7399	-44.8667	-0.25255	-0.50084	0.82787	3907
3257058	28.5896	-45.5281	-0.27477	-0.50878	0.81587	3908
3257945	28.1579	-52.9329	-0.27402	-0.59561	0.75509	3909
3262916	23.1749	-61.5512	-0.22146	-0.69669	0.68234	3910
3263318	-24.3166	-56.5762	-0.23104	-0.63806	0.73451	3911
3268818	-28.2118	-60.7486	-0.28062	-0.68782	0.66944	3912
3274968	-24.4741	-70.0337	-0.24565	-0.79781	0.55059	3913
3275498	-25.9993	-65.8543	-0.25910	-0.74812	0.61088	3914
3276073	-26.9364	-62.0419	-0.26657	-0.70297	0.65938	3915
3277902	-26.5243	-69.5049	-0.26955	-0.79180	0.54808	3916
3279009	-28.8954	-62.5108	-0.29038	-0.70881	0.64286	3917
3292151	-21.4724	-79.3817	-0.22509	-0.91077	0.34617	3918

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
3293140	107.8610	69.0254	-0.0066	0.0001	4.3 1.3	3919
3298490	104.1600	66.8526	-0.0107	-0.0009	2.0 1.3	3920
3305955	94.2025	138.5631	-0.0109	0.0060	3.0 1.4	3921
3306780	93.1554	140.7622	-0.0067	0.0041	2.9 1.8	3922
3306973	93.1946	138.6991	-0.0087	0.0080	2.8 1.7	3923
3310786	98.2578	131.4977	-0.0082	0.0045	2.0 2.7	3924
3317699	92.2761	132.1720	0.0046	-0.0018	2.1 1.2	3925
3325437	94.4752	125.3985	-0.0054	0.0005	3.9 2.8	3926
3328562	91.7592	125.0797	0.0021	0.0034	1.8 0.7	3927
3331107	98.1889	119.3063	-0.0076	0.0027	5.5 5.1	3928
3335124	94.6720	119.6678	-0.0112	0.0061	2.3 5.7	3929
3343890	96.1388	105.3728	-0.0108	-0.0041	2.6 2.2	3930
3351502	98.8394	99.1407	-0.0068	-0.0029	3.2 1.2	3931
3352411	97.9172	100.1720	-0.0056	0.0001	2.1 2.2	3932
3362154	97.8358	93.9083	-0.0057	0.0007	3.4 2.3	3933
3362254	97.9228	93.1030	-0.0055	-0.0008	2.5 1.8	3934
3362302	98.3737	92.4083	0.0016	0.0058	7.3 2.1	3935
3364189	95.9354	93.5291	-0.0094	0.0076	2.6 5.0	3936
3364305	96.7236	92.1854	-0.0124	0.0044	2.3 2.2	3937
3365080	95.0468	95.1684	-0.0104	0.0033	4.8 1.8	3938
3366854	94.8974	88.0855	0.0022	0.0057	1.9 1.6	3939
3370325	100.4394	83.6681	-0.0001	-0.0022	2.2 1.8	3940
3371016	99.5658	86.1386	0.0035	0.0068	2.0 2.1	3941
3371850	99.7164	79.9355	-0.0084	0.0125	1.7 2.2	3942
3373170	97.3955	85.8500	-0.0026	-0.0029	1.8 2.3	3943
3375679	96.1345	80.9619	-0.0131	0.0070	2.2 2.6	3944
3383681	98.7425	73.2912	0.0066	0.0005	3.4 1.8	3945
3401763	89.1066	140.5210	-0.0035	-0.0018	2.8 1.6	3946
3407403	84.5821	143.2121	-0.0059	-0.0036	2.2 1.0	3947
3412682	88.0966	132.8199	-0.0083	0.0064	4.7 1.6	3948
3418288	83.1025	135.8606	-0.0085	-0.0061	3.9 1.9	3949
3421184	88.9871	128.3202	-0.0014	-0.0043	3.0 1.0	3950
3422444	88.5166	125.8016	-0.0119	0.0038	5.3 2.6	3951
3423590	87.2791	125.2788	0.0055	0.0010	3.1 1.3	3952
3428279	83.3186	127.1356	-0.0095	-0.0078	2.7 1.7	3953
3429034	82.7426	129.3740	-0.0089	0.0053	6.9 2.4	3954
3433974	87.7650	112.8825	-0.0031	-0.0043	2.6 1.8	3955
3439445	82.9225	117.1893	0.0050	0.0044	1.9 1.6	3956
3441618	90.0892	106.5042	-0.0052	0.0069	3.3 0.7	3957
3442858	89.0374	104.8031	-0.0132	0.0012	3.0 1.7	3958
3443307	88.4537	109.2031	0.0012	0.0042	2.0 3.4	3959
3445265	86.2164	110.2729	-0.0117	0.0001	6.8 2.5	3960
3449043	83.0051	112.2539	-0.0045	0.0051	4.0 1.2	3961
3450019	91.1190	103.0259	-0.0131	0.0019	2.9 1.2	3962
3451196	89.6730	102.4101	0.0044	0.0003	2.8 1.3	3963
3452778	89.1841	97.2203	-0.0147	-0.0027	1.9 0.6	3964
3453541	88.5310	99.5185	0.0096	-0.0016	2.7 1.0	3965
3455041	86.6671	103.7611	-0.0098	-0.0058	1.6 2.1	3966
3459157	83.3243	102.4558	-0.0042	0.0079	2.1 1.9	3967
3459224	83.6265	101.9093	0.0043	0.0008	3.0 1.2	3968
3462979	89.8695	86.9501	-0.0021	0.0016	3.0 2.0	3969
3463693	88.6998	89.9915	-0.0024	-0.0005	2.7 1.6	3970
3463855	89.1506	88.1487	-0.0122	0.0012	5.0 2.6	3971
3469579	83.8836	90.4329	-0.0070	-0.0021	4.3 1.9	3972
3471353	91.1946	84.1115	0.0128	-0.0046	3.3 1.8	3973
3478483	85.3422	83.3894	0.0028	0.0046	3.1 1.9	3974
3479428	85.0516	82.9884	0.0007	0.0063	2.3 2.1	3975
3486036	87.9972	78.1662	-0.0054	0.0067	5.6 2.1	3976
3500342	81.7741	144.2535	-0.0147	-0.0038	3.9 2.6	3977
3500582	81.4372	142.4929	-0.0060	0.0040	9.2 2.1	3978
3521662	80.8937	124.3355	-0.0049	-0.0004	2.8 2.4	3979
3524320	78.6998	127.1460	-0.0015	0.0030	1.9 2.9	3980
3526348	76.8835	126.5275	-0.0149	0.0008	2.3 1.3	3981
3533723	79.8366	114.8744	-0.0114	0.0036	4.0 5.2	3982
3535698	77.5997	115.3870	-0.0115	0.0062	2.4 4.0	3983
3538506	75.8876	116.4231	-0.0033	0.0023	2.2 2.1	3984
3541807	82.0547	105.1232	-0.0006	0.0002	2.6 2.9	3985
3543313	80.1076	109.7049	-0.0128	-0.0001	2.5 1.6	3986
3549040	74.8265	112.6812	0.0040	-0.0069	4.0 3.7	3987
3549056	74.7965	112.1495	-0.0039	-0.0009	2.1 1.2	3988
3549174	74.6145	111.5028	-0.0053	-0.0007	2.6 2.2	3989
3553126	80.2965	102.6862	-0.0026	-0.0046	2.7 3.1	3990
3559563	75.3180	99.6975	-0.0146	-0.0016	4.3 1.5	3991

POSITIONS ON THE DISK

8b

Ref	x'	y'	ξ	η	ζ	Ser
3293140	-22.2100	-79.3338	-0.23397	-0.91035	0.34135	3919
3298490	25.9007	-81.5265	-0.28758	-0.93965	0.18537	3920
3305955	-36.2499	-9.8410	-0.35531	-0.09486	0.92992	3921
3306780	-37.3093	-7.6465	-0.36773	-0.06964	0.92732	3922
3306973	-37.2590	-9.7102	-0.36729	-0.09347	0.92540	3923
3310786	-32.1548	-16.8881	-0.30764	-0.17592	0.93510	3924
3317699	-38.1425	-16.2444	-0.37858	-0.16914	0.90998	3925
3325437	-35.9059	-23.0090	-0.35328	-0.24727	0.90225	3926
3328562	38.6213	-23.3420	-0.38568	-0.25147	0.88770	3927
3331107	-32.1578	-29.0843	-0.31041	-0.31739	0.89605	3928
3335124	-35.6780	-28.7408	-0.35209	-0.31381	0.88179	3929
3343890	-34.1334	-43.0335	-0.33935	-0.48026	0.80882	3930
3351502	31.3980	-49.2540	-0.31020	-0.55279	0.77343	3931
3352411	-32.3261	-48.2271	-0.32064	-0.54086	0.77759	3932
3362154	32.3737	-54.4935	-0.32532	-0.61454	0.71868	3933
3362254	-32.2823	-55.2986	-0.32482	-0.62402	0.71070	3934
3362302	-31.8274	-55.9913	-0.31990	-0.63212	0.70575	3935
3364189	-34.2728	-54.8826	-0.34834	-0.61942	0.70354	3936
3364305	-33.4770	-56.2228	-0.33983	-0.63511	0.69365	3937
3365080	-35.1706	-53.2473	-0.35790	-0.60029	0.71523	3938
3366854	-35.2817	-60.3336	-0.36506	-0.68407	0.63149	3939
3370325	-29.7137	-64.7240	-0.30238	-0.73525	0.60662	3940
3371016	-30.6010	-62.2571	-0.31056	-0.70607	0.63641	3941
3371850	-30.4168	-68.4617	-0.31512	-0.78001	0.54063	3942
3373170	-32.7706	-62.5570	-0.33693	-0.71000	0.61837	3943
3375679	-34.0056	-67.4534	-0.35737	-0.76868	0.53049	3944
3383681	31.3551	-75.1135	-0.33712	-0.86076	0.38137	3945
3401763	-41.3584	-7.9087	-0.41599	-0.07316	0.90642	3946
3407403	-45.8992	-5.2399	-0.47022	-0.04299	0.88150	3947
3412682	-42.3272	-15.6178	-0.42843	-0.16244	0.88886	3948
3418288	-47.3396	-12.6017	-0.48816	-0.12829	0.86327	3949
3421184	-41.4120	-20.1146	-0.41829	-0.21441	0.88264	3950
3422444	-41.8690	-22.6365	-0.42432	-0.24373	0.87210	3951
3423590	-43.1042	-23.1659	-0.43924	-0.25006	0.86286	3952
3428279	-47.0763	-21.3288	-0.48656	-0.22937	0.84300	3953
3429034	-47.6646	-19.0926	-0.49316	-0.20353	0.84579	3954
3433974	-42.5510	-35.5643	-0.43668	-0.39426	0.80863	3955
3439445	-47.4187	-31.2808	-0.49369	-0.34516	0.79821	3956
3441618	-40.1914	-41.9329	-0.41127	-0.46829	0.78202	3957
3442858	-41.2344	-43.6401	-0.42472	-0.48845	0.76225	3958
3443307	-41.8422	-39.2414	-0.42979	-0.43708	0.79009	3959
3445265	-44.0861	-38.1828	-0.45633	-0.42510	0.78170	3960
3449043	-47.3094	-36.2176	-0.49440	-0.40274	0.77030	3961
3450019	-39.1424	-45.4072	-0.40055	-0.50881	0.76202	3962
3451196	40.5856	-46.0307	-0.41828	-0.51637	0.74726	3963
3452778	-41.0467	-51.2249	-0.42724	-0.57752	0.69565	3964
3453541	-41.7125	-48.9292	-0.43371	-0.55063	0.71324	3965
3455041	-43.6000	-44.6947	-0.45388	-0.50125	0.73671	3966
3459157	-46.9371	-46.0177	-0.49522	-0.51747	0.69783	3967
3459224	-46.6318	-46.5628	-0.49186	-0.52381	0.69548	3968
3462979	-40.3054	-61.4953	-0.42727	-0.69895	0.57350	3969
3463693	-41.4921	-58.4589	-0.43868	-0.66313	0.60648	3970
3463855	-41.0311	-60.3000	-0.43488	-0.68490	0.58463	3971
3469579	-46.3125	-58.0421	-0.49749	-0.65942	0.56362	3972
3471353	38.9645	-64.3281	-0.41407	-0.73243	0.54045	3973
3478483	-44.8153	-65.0807	-0.48761	-0.74321	0.45812	3974
3479428	-45.1038	-65.4833	-0.49186	-0.74818	0.44532	3975
3486036	-42.1310	-70.2921	-0.46272	-0.80551	0.37019	3976
3500342	-48.7140	-4.2126	-0.50406	-0.03157	0.86309	3977
3500582	-49.0415	-5.9756	-0.50808	-0.05198	0.85974	3978
3521662	-49.4870	-24.1425	-0.51640	-0.26248	0.81513	3979
3524320	-51.6969	-21.3423	-0.54246	-0.23037	0.80787	3980
3526348	53.5106	-21.9703	-0.56469	-0.23803	0.79023	3981
3533723	-50.4933	-33.6125	-0.53193	-0.37296	0.76023	3982
3535698	-52.7339	-33.1113	-0.55905	-0.36760	0.74319	3983
3538506	-54.4522	-32.0836	-0.57965	-0.35600	0.73299	3984
3541807	48.2216	-43.3559	-0.50923	-0.48650	0.70994	3985
3543313	-50.1942	-38.7825	-0.53073	-0.43333	0.72838	3986
3549040	-55.4935	-35.8323	-0.59420	-0.40007	0.69776	3987
3549056	-55.5206	-36.3644	-0.59481	-0.40630	0.69362	3988
3549174	-55.6992	-37.0123	-0.59736	-0.41394	0.68689	3989
3553126	-49.9673	-45.8028	-0.53214	-0.51565	0.67151	3990
3559563	-54.9316	-48.8183	-0.59589	-0.55261	0.58270	3991

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
3563580	80.5830	91.3350	-0.0080	0.0068	4.4 2.0	3992
3566593	78.0960	91.1231	-0.0145	0.0035	2.3 3.6	3993
3569174	75.5787	94.4818	0.0044	0.0019	1.4 0.9	3994
3569416	76.3087	91.8197	0.0118	-0.0005	3.6 1.6	3995
3569650	76.1341	90.6650	0.0002	0.0117	2.1 2.9	3996
3573587	81.5734	82.4331	0.0069	0.0069	4.9 1.0	3997
3576484	79.0810	83.5860	-0.0053	-0.0028	1.7 2.6	3998
3578342	77.6972	84.6224	0.0070	0.0074	2.9 2.0	3999
3579336	77.0849	84.3615	0.0042	0.0052	3.4 1.8	4000
3582039	83.5187	78.1022	0.0047	0.0000	2.2 1.3	4001
3605400	69.8189	143.7718	-0.0053	0.0044	2.9 2.1	4002
3605620	69.6528	142.0904	-0.0105	0.0083	4.7 7.5	4003
3605852	69.4071	140.1573	-0.0107	0.0022	3.3 2.0	4004
3608594	66.7387	142.6724	-0.0073	-0.0009	2.3 2.8	4005
3609758	66.1415	140.6104	-0.0070	-0.0003	3.8 5.1	4006
3611311	73.0176	135.8815	-0.0046	-0.0017	5.1 2.8	4007
3614955	70.2441	130.3802	-0.0070	0.0023	2.6 1.2	4008
3617346	67.8989	135.4792	-0.0041	-0.0019	3.4 3.0	4009
3618073	66.8297	138.4294	0.0089	0.0006	2.0 1.3	4010
3621150	72.7019	129.0508	-0.0062	-0.0055	1.5 3.9	4011
3621657	72.8139	124.1356	-0.0002	-0.0038	2.8 1.4	4012
3625822	69.8608	122.8704	-0.0089	0.0019	2.5 1.8	4013
3627817	68.2998	122.5144	0.0047	-0.0004	2.3 1.2	4014
3628529	67.4104	125.0043	-0.0005	-0.0009	2.3 3.0	4015
3629497	66.0021	126.0722	-0.0031	0.0037	4.0 2.0	4016
3630019	74.0692	120.4761	-0.0127	0.0033	4.7 3.7	4017
3632427	72.3992	117.2530	-0.0026	0.0009	2.5 1.6	4018
3635136	69.8263	120.0199	-0.0048	0.0001	2.6 1.1	4019
3636842	69.1103	114.3772	-0.0110	-0.0087	5.9 4.5	4020
3637368	68.0845	118.1915	-0.0051	-0.0038	2.0 1.1	4021
3639208	66.9212	119.0472	-0.0118	0.0111	2.9 0.5	4022
3645848	70.3719	105.3362	0.0074	-0.0007	3.1 2.2	4023
3646511	69.6604	108.4945	-0.0057	0.0008	0.7 4.1	4024
3647141	68.4880	111.9749	0.0123	0.0054	7.1 1.3	4025
3647491	68.1394	109.3626	-0.0090	-0.0030	3.1 4.5	4026
3648922	68.1376	105.0744	0.0108	0.0052	3.3 1.9	4027
3649728	67.3256	106.3187	-0.0053	-0.0091	2.6 2.1	4028
3652841	73.2700	97.3598	-0.0135	-0.0019	4.5 3.6	4029
3653333	72.3313	101.4410	0.0114	-0.0040	2.7 1.5	4030
3653514	72.5525	99.6941	-0.0043	0.0016	3.3 2.7	4031
3654652	71.4506	99.0692	-0.0150	0.0007	5.8 2.0	4032
3657724	69.4571	98.1536	0.0091	0.0113	2.4 2.2	4033
3660248	75.1753	93.3323	-0.0052	0.0024	4.0 3.4	4034
3660510	75.6412	91.4603	-0.0026	-0.0018	4.1 2.2	4035
3664386	71.7631	92.8512	-0.0033	-0.0037	2.6 1.8	4036
3664472	71.9015	92.3731	-0.0042	0.0052	2.1 1.4	4037
3664555	72.2981	91.2081	0.0062	0.0112	6.0 1.7	4038
3664828	72.8767	88.5013	-0.0086	0.0018	1.5 1.3	4039
3665989	71.7284	87.6917	-0.0097	0.0086	2.4 5.0	4040
3666204	70.7945	93.9008	0.0025	-0.0046	4.8 1.6	4041
3667453	69.9072	92.3098	-0.0061	0.0023	6.8 1.9	4042
3667481	69.5355	92.5470	-0.0014	0.0031	2.0 1.8	4043
3669405	68.7867	92.2841	-0.0136	0.0028	3.7 5.2	4044
3669464	68.3589	92.3055	0.0102	0.0054	2.7 2.9	4045
3669925	69.4051	88.1346	0.0075	-0.0028	2.8 1.3	4046
3670577	76.3782	82.7100	0.0016	0.0067	2.2 9.4	4047
3671624	76.2014	82.1730	0.0118	0.0036	1.7 2.5	4048
3672641	75.3548	82.4872	0.0072	0.0072	2.0 1.2	4049
3672674	75.2255	82.2574	0.0047	0.0101	4.2 1.5	4050
3674016	73.0467	87.0550	-0.0110	0.0034	2.2 2.2	4051
3700535	65.5494	142.6071	0.0012	-0.0042	3.7 8.0	4052
3701986	64.3251	139.1412	0.0048	-0.0042	2.4 2.4	4053
3711600	64.9976	133.5860	-0.0093	-0.0051	2.6 6.3	4054
3715115	61.6864	137.5133	-0.0012	0.0019	2.3 3.2	4055
3722516	64.2928	125.3730	0.0034	0.0021	3.7 1.4	4056
3722757	64.0480	123.6174	-0.0024	0.0032	2.0 4.9	4057
3724358	62.3744	126.9082	0.0023	0.0007	2.2 2.2	4058
3726290	60.3992	128.5661	-0.0024	0.0034	4.5 2.9	4059
3726975	60.7648	122.0816	-0.0026	-0.0022	3.0 1.7	4060
3733276	63.1741	119.3645	-0.0131	0.0031	1.3 3.8	4061
3733519	63.7844	116.5369	-0.0007	0.0023	1.7 1.9	4062
3734537	62.8128	116.7304	-0.0106	0.0011	4.6 2.2	4063
3735356	61.8105	118.5686	-0.0105	0.0065	2.7 2.0	4064

POSITIONS ON THE DISK

9b

Ref	x'	y'	ξ	η	ζ	Ser
3563580	-49.6193	-57.1567	-0.53764	-0.64988	0.53722	3992
3566593	-52.1061	-57.3815	-0.56913	-0.65342	0.49914	3993
3569174	-54.6426	-54.0346	-0.59733	-0.61442	0.51545	3994
3569416	-53.8979	-56.6939	-0.59100	-0.64588	0.48328	3995
3569650	-54.0663	-57.8499	-0.59465	-0.65980	0.45941	3996
3573587	48.5804	-66.0568	-0.53726	-0.75662	0.37267	3997
3576484	-51.0800	-64.9163	-0.56764	-0.74396	0.35256	3998
3578342	-52.4699	-63.8867	-0.58387	-0.73213	0.35084	3999
3579336	-53.0810	-64.1508	-0.59258	-0.73574	0.32793	4000
3582039	46.6109	-70.3792	-0.52164	-0.80901	0.27091	4001
3605400	-60.6712	-4.7561	-0.64970	-0.04021	0.75913	4002
3605620	-60.8283	-6.4390	-0.65173	-0.05969	0.75610	4003
3605852	-61.0636	-8.3741	-0.65479	-0.08212	0.75133	4004
3608594	63.7467	-5.8718	-0.68779	-0.05387	0.72391	4005
3609758	-64.3330	-7.9377	-0.69524	-0.07791	0.71454	4006
3611311	-57.4286	-12.6328	-0.61064	-0.13057	0.78107	4007
3614955	-60.1734	-18.1505	-0.64542	-0.19519	0.73846	4008
3617346	62.5471	-13.0617	-0.67375	-0.13677	0.72619	4009
3618073	-63.6327	-10.1159	-0.68678	-0.10294	0.71954	4010
3621150	-57.7075	-19.4677	-0.61539	-0.20989	0.75977	4011
3621657	-57.5688	-24.3841	-0.61506	-0.26701	0.74190	4012
3625822	60.5163	-25.6650	-0.65188	-0.28268	0.70367	4013
3627817	-62.0759	-26.0292	-0.67139	-0.28736	0.68312	4014
3628529	-62.9792	-23.5430	-0.68175	-0.25865	0.68433	4015
3629497	-64.3938	-22.4819	-0.69906	-0.24671	0.67115	4016
3630019	-56.2933	-28.0385	-0.60064	-0.30926	0.73729	4017
3632427	-57.9465	-31.2714	-0.62231	-0.34739	0.70146	4018
3635136	-60.5354	-28.5167	-0.65321	-0.31594	0.68811	4019
3636842	-61.2211	-34.1652	-0.66443	-0.38217	0.64225	4020
3637368	-62.2679	-30.3548	-0.67561	-0.33791	0.65526	4021
3639208	-63.4363	-29.5048	-0.68984	-0.32834	0.64522	4022
3645848	-59.9101	-43.2030	-0.65383	-0.48795	0.57828	4023
3646511	-60.6390	-40.0472	-0.66071	-0.45103	0.60003	4024
3647141	61.8307	-36.5716	-0.67345	-0.41058	0.61472	4025
3647491	-62.1653	-39.1867	-0.67936	-0.44143	0.58618	4026
3648922	-62.1439	-43.4764	-0.68238	-0.49201	0.54064	4027
3649728	-62.9629	-42.2359	-0.69179	-0.47768	0.54152	4028
3652841	-56.9677	-51.1674	-0.62374	-0.58117	0.52268	4029
3653333	57.9289	-47.0895	-0.63203	-0.53317	0.56238	4030
3653514	-57.6981	-48.8359	-0.63070	-0.55377	0.54366	4031
3654652	-58.7971	-49.4668	-0.64526	-0.56167	0.51785	4032
3657724	-60.7864	-50.3930	-0.67180	-0.57355	0.46875	4033
3660248	-55.0399	-55.1866	-0.60370	-0.62831	0.49069	4034
3660510	54.5637	-57.0569	-0.59996	-0.65050	0.46572	4035
3664386	-58.4508	-55.6854	-0.64832	-0.63583	0.41882	4036
3664472	-58.3098	-56.1630	-0.64718	-0.64151	0.41186	4037
3664555	57.9067	-57.3264	-0.64370	-0.65534	0.39520	4038
3664828	57.3133	-60.0312	-0.64068	-0.68788	0.34111	4039
3665989	-58.4576	-60.8470	-0.65830	-0.69879	0.27989	4040
3666204	-59.4255	-54.6404	-0.65956	-0.62376	0.41941	4041
3667453	60.3045	-56.2366	-0.67376	-0.64354	0.36318	4042
3667481	-60.6777	-56.0012	-0.67837	-0.64092	0.35922	4043
3669405	61.4253	-56.2681	-0.68904	-0.64468	0.33107	4044
3669464	61.8534	-56.2489	-0.69491	-0.64477	0.31840	4045
3669925	60.7842	-60.4159	-0.69138	-0.69588	0.19428	4046
3670577	-53.7791	-65.8066	-0.60672	-0.75694	0.24275	4047
3671624	53.9530	-66.3447	-0.61134	-0.76405	0.20613	4048
3672641	54.8017	-66.0347	-0.62299	-0.76110	0.18059	4049
3672674	-54.9298	-66.2653	-0.62652	-0.76446	0.15194	4050
3674016	-57.1354	-61.4771	-0.64146	-0.70554	0.30124	4051
3700535	-64.9361	-5.9433	-0.70258	-0.05501	0.70948	4052
3701986	-66.1421	-9.4168	-0.71796	-0.09554	0.68949	4053
3711600	-65.4393	-14.9705	-0.71011	-0.15971	0.68574	4054
3715115	-68.7731	-11.0589	-0.75125	-0.11538	0.64985	4055
3722516	-66.1000	-23.1902	-0.72072	-0.25550	0.64442	4056
3722757	66.3354	-24.9477	-0.72435	-0.27608	0.63174	4057
3724358	-68.0274	-21.6643	-0.74452	-0.23837	0.62360	4058
3726290	-70.0124	-20.0160	-0.76918	-0.21989	0.60001	4059
3726975	-69.6115	-26.5010	-0.76671	-0.29542	0.56999	4060
3733276	-67.1866	-29.2067	-0.73707	-0.32614	0.59192	4061
3733519	-66.5608	-32.0322	-0.73062	-0.35901	0.58078	4062
3734537	-67.5338	-31.8436	-0.74294	-0.35718	0.56610	4063
3735356	-68.5464	-30.0099	-0.75487	-0.33608	0.56323	4064

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
3738946	59.7634	113.5554	-0.0046	-0.0021	3.0 2.0	4065
3739493	58.4783	118.1622	0.0075	0.0128	6.2 3.2	4066
3740574	66.0426	108.3614	-0.0082	-0.0040	3.4 1.0	4067
3742471	64.4093	109.5645	0.0001	0.0072	2.9 0.7	4068
3748968	60.2943	104.9504	0.0042	-0.0050	2.4 1.7	4069
3751813	66.5672	97.5559	0.0111	-0.0026	2.9 1.7	4070
3752417	65.4679	100.6007	-0.0011	0.0103	2.8 2.9	4071
3754443	63.7594	100.9940	0.0004	-0.0023	2.9 1.8	4072
3755201	63.1404	102.8890	0.0138	-0.0056	2.2 1.7	4073
3758377	60.5634	101.7223	-0.0049	-0.0071	1.8 2.8	4074
3758712	61.4305	98.7339	0.0032	-0.0055	3.0 1.7	4075
3760074	67.0061	95.7803	0.0118	0.0000	3.2 3.4	4076
3761679	67.2596	90.4241	0.0117	0.0064	3.7 2.0	4077
3761764	67.3719	90.0444	-0.0034	0.0090	2.8 0.7	4078
3762058	65.7583	95.5166	-0.0041	-0.0017	2.6 1.2	4079
3763046	65.0473	95.7372	0.0001	0.0013	3.1 1.2	4080
3763226	65.4800	94.0637	0.0122	0.0069	2.8 2.7	4081
3767082	62.1665	96.3293	0.0136	0.0100	5.5 1.6	4082
3805769	53.5463	140.9863	-0.0112	-0.0069	2.2 3.4	4083
3807476	51.9495	143.9145	0.0078	0.0035	3.7 7.6	4084
3808183	51.1505	146.8066	0.0085	0.0001	2.5 3.4	4085
3817568	52.1021	134.2700	-0.0017	-0.0095	1.8 1.6	4086
3818172	51.2779	138.2622	0.0073	0.0075	2.8 1.4	4087
3818748	51.5800	132.5587	0.0056	0.0041	2.5 3.3	4088
3821856	57.0422	123.0111	-0.0017	0.0041	4.1 3.0	4089
3821926	57.2731	122.2204	0.0061	-0.0072	3.5 1.5	4090
3823709	55.8588	123.7294	0.0082	0.0062	2.9 7.1	4091
3824334	54.7860	127.5882	0.0002	-0.0042	2.1 1.6	4092
3825746	54.1232	124.1282	0.0060	-0.0031	2.0 1.6	4093
3831691	56.9969	116.7287	0.0106	-0.0020	3.4 5.1	4094
3832592	56.1967	117.4585	-0.0127	0.0057	2.3 2.2	4095
3832640	56.6214	116.7628	0.0023	0.0036	2.9 2.2	4096
3833296	55.4136	119.7271	0.0075	-0.0007	2.1 1.7	4097
3834314	55.2117	119.0864	0.0021	-0.0058	2.1 1.3	4098
3836342	53.5821	119.3208	0.0050	-0.0047	1.7 4.0	4099
3838560	52.1335	117.9244	0.0005	-0.0091	2.6 1.2	4100
3844019	55.6137	112.7316	0.0035	-0.0044	2.6 1.7	4101
3849065	52.0265	113.3179	0.0052	-0.0026	1.9 1.2	4102
3900603	50.2638	142.4832	-0.0028	-0.0081	2.9 5.1	4103
3903541	47.8504	143.7892	0.0056	-0.0024	1.5 1.7	4104
3904262	47.0766	146.3474	0.0002	-0.0032	2.0 4.1	4105
3904844	47.1873	140.8723	-0.0120	0.0038	2.9 2.6	4106
3913619	48.1814	133.5346	0.0044	0.0026	3.1 1.2	4107
3922463	48.8531	127.2403	-0.0059	-0.0024	3.5 1.6	4108
4005338	129.1040	143.1313	-0.0063	0.0032	2.6 2.4	4109
4013281	127.7971	136.0033	-0.0066	0.0047	4.6 3.4	4110
4015361	129.3522	135.0395	-0.0097	0.0095	2.2 6.7	4111
4016748	130.1259	130.9977	-0.0066	0.0042	2.5 2.6	4112
4017781	131.3750	131.5957	-0.0127	0.0094	9.9 1.6	4113
4024931	128.4478	121.2356	0.0052	0.0033	3.1 1.6	4114
4030878	125.4345	112.9349	-0.0045	0.0028	3.3 4.4	4115
4037042	131.1684	120.2755	-0.0004	0.0022	9.6 2.9	4116
4040106	124.9299	110.5578	-0.0108	-0.0041	4.3 1.3	4117
4043060	127.9171	111.8929	-0.0147	-0.0060	2.4 2.8	4118
4045505	129.3580	107.1801	-0.0064	-0.0031	6.2 2.8	4119
4048108	131.8215	110.2892	-0.0068	0.0053	4.2 7.3	4120
4056499	131.2263	99.1078	0.0134	-0.0021	2.8 2.6	4121
4073188	129.4334	84.7402	0.0110	-0.0113	2.8 1.8	4122
4084442	130.8134	74.4022	-0.0137	-0.0098	2.4 4.8	4123
4086843	132.8782	70.9446	-0.0003	-0.0057	2.5 1.2	4124
4089823	135.3622	70.9577	-0.0093	-0.0031	2.9 2.4	4125
4092795	131.3676	63.5443	0.0089	0.0036	1.9 1.7	4126
4097891	135.9882	63.0650	0.0071	-0.0068	1.3 3.0	4127
4102396	135.7603	143.2661	0.0014	0.0022	1.1 4.2	4128
4102520	135.1151	142.0939	-0.0062	-0.0020	3.6 1.4	4129
4102897	135.7116	138.8242	-0.0117	-0.0078	2.1 2.4	4130
4103720	136.1028	140.2821	-0.0111	0.0053	6.3 2.5	4131
4114228	136.8948	135.3021	-0.0082	-0.0007	4.1 1.6	4132
4115169	138.1408	136.0995	-0.0116	0.0018	3.5 1.7	4133
4115787	138.3191	131.0411	-0.0053	-0.0043	3.9 1.7	4134
4121834	134.4942	121.8382	0.0004	-0.0009	9.3 1.9	4135
4122982	135.7964	121.1290	-0.0118	0.0041	3.5 2.3	4136
4127892	140.3265	121.9614	-0.0118	-0.0084	3.3 2.9	4137

POSITIONS ON THE DISK

10b

Ref	x'	y'	ξ	η	ζ	Ser
3738946	-70.5672	-35.0355	-0.78445	-0.39609	0.47724	4065
3739493	71.8777	-30.4336	-0.79832	-0.34254	0.49533	4066
3740574	-64.2575	-40.1990	-0.70671	-0.45415	0.54250	4067
3742471	-65.8979	-39.0039	-0.72683	-0.44073	0.52676	4068
3748968	-69.9896	-43.6409	-0.78569	-0.49803	0.36695	4069
3751813	63.6742	-51.0058	-0.71053	-0.58240	0.39492	4070
3752417	-64.7904	-47.9655	-0.72127	-0.54657	0.42548	4071
3754443	-66.5017	-47.5809	-0.74362	-0.54298	0.39013	4072
3755201	-67.1312	-45.6884	-0.74958	-0.52069	0.40867	4073
3758377	-69.7029	-46.8688	-0.78686	-0.53678	0.30449	4074
3758712	68.8193	-49.8539	-0.78045	-0.57251	0.52125	4075
3760074	-63.2255	-52.7798	-0.70724	-0.60352	0.36820	4076
3761679	62.9430	-58.1367	-0.71621	-0.66948	0.19706	4077
3761764	-62.8286	-58.5159	-0.71606	-0.67426	0.18066	4078
3762058	-64.4724	-53.0500	-0.72481	-0.60768	0.32461	4079
3763046	-65.1849	-52.8330	-0.73436	-0.60561	0.30651	4080
3763226	-64.7430	-54.5049	-0.73188	-0.62580	0.26968	4081
3767082	68.0700	-52.2555	-0.77634	-0.60176	0.18756	4082
3805769	-76.9351	-7.6266	-0.85570	-0.07880	0.51144	4083
3807476	-78.5484	-4.7055	-0.87674	-0.04577	0.47879	4084
3808183	79.3633	-1.8165	-0.88748	-0.01278	0.46066	4085
3817568	-78.3436	-14.3528	-0.87604	-0.15772	0.45571	4086
3818172	79.1897	-10.3634	-0.88629	-0.11177	0.44943	4087
3818748	-78.8566	-16.0674	-0.88363	-0.17802	0.43302	4088
3821856	-73.3406	-25.5904	-0.81460	-0.28641	0.50437	4089
3821926	-73.1054	-26.3802	-0.81195	-0.29555	0.50337	4090
3823709	-74.5284	-24.8779	-0.82987	-0.27866	0.48339	4091
3824334	75.6225	-21.0232	-0.84239	-0.23410	0.48535	4092
3825746	76.2668	-24.4879	-0.85286	-0.27505	0.44382	4093
3831691	73.3520	-31.8753	-0.81889	-0.36030	0.44677	4094
3832592	-74.1564	-31.1494	-0.82911	-0.35221	0.43419	4095
3832640	-73.7278	-31.8431	-0.82391	-0.36014	0.43758	4096
3833296	74.9521	-28.8840	-0.83810	-0.32597	0.43742	4097
3834314	-75.1506	-29.5259	-0.84127	-0.33366	0.42538	4098
3836342	76.7821	-29.2999	-0.86347	-0.33209	0.37966	4099
3838560	-78.2237	-30.7042	-0.88553	-0.34999	0.30551	4100
3844019	-74.7141	-35.8810	-0.84139	-0.40871	0.35357	4101
3849065	78.3059	-35.3130	-0.89535	-0.40604	0.18297	4102
3900603	-80.2270	-6.1461	-0.89955	-0.06341	0.43218	4103
3903541	82.6484	-4.8520	-0.93313	-0.05009	0.35605	4104
3904262	83.4363	-2.2969	-0.94425	-0.02113	0.32855	4105
3904844	83.2960	-7.7734	-0.94314	-0.08460	0.32144	4106
3913619	-82.2618	-15.1087	-0.93103	-0.16935	0.32326	4107
3922463	81.5558	-21.4018	-0.92513	-0.24278	0.29186	4108
4005338	-1.3595	-5.0911	0.05242	-0.03811	0.99790	4109
4013281	-2.6284	-12.2285	0.03736	-0.12051	0.99201	4110
4015361	-1.0674	-13.1846	0.05523	-0.13155	0.98977	4111
4016748	-0.2716	-17.2239	0.06389	-0.17825	0.98191	4112
4017781	0.9748	-16.6193	0.07830	-0.17126	0.98211	4113
4024931	-1.8975	-26.9983	0.04331	-0.29150	0.95559	4114
4030878	-4.8671	-35.3176	0.00668	-0.38821	0.92155	4115
4037042	0.8293	-27.9447	0.07444	-0.30248	0.95024	4116
4040106	-5.3590	-37.6981	0.00016	-0.41594	0.90939	4117
4043060	-2.3779	-36.3472	0.03504	-0.40017	0.91577	4118
4045505	-0.9109	-41.0543	0.05016	-0.45501	0.88907	4119
4048108	1.5367	-37.9313	0.07951	-0.41861	0.90468	4120
4056499	1.0018	-49.1199	0.06843	-0.54928	0.83283	4121
4073188	-0.7141	-63.5020	0.03914	-0.71849	0.69443	4122
4084442	0.7223	-73.8367	0.04510	-0.84155	0.53829	4123
4086843	2.8066	-77.2849	0.06421	-0.88314	0.46469	4124
4089823	5.2915	-77.2590	0.09268	-0.88290	0.46032	4125
4092795	1.3355	-84.6957	0.03053	-0.97489	0.22057	4126
4097891	5.9605	-85.1514	0.08104	-0.98121	0.17510	4127
4102396	5.2987	-4.9220	0.12883	-0.03620	0.99101	4128
4102520	4.6596	-6.0979	0.12148	-0.04975	0.99135	4129
4102897	5.2740	-9.3658	0.12833	-0.08747	0.98787	4130
4103720	5.6574	-7.9053	0.13281	-0.07062	0.98862	4131
4114228	6.4767	-12.8830	0.14180	-0.12812	0.98157	4132
4115169	7.7189	-12.0789	0.15607	-0.11885	0.98057	4133
4115787	7.9246	-17.1383	0.15783	-0.17735	0.97141	4134
4121834	4.1480	-26.3643	0.11290	-0.28417	0.95210	4135
4122982	5.4545	-27.0670	0.12769	-0.29234	0.94775	4136
4127892	9.9819	-26.2110	0.17962	-0.28252	0.94230	4137

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
4136545	139.0283	115.7272	0.0049	-0.0037	2.3 0.9	4138
4136887	139.4577	112.9708	-0.0017	0.0123	3.0 1.4	4139
4150406	133.9557	99.3302	-0.0073	-0.0059	8.1 6.8	4140
4154400	137.4381	99.8801	-0.0052	-0.0035	6.1 3.3	4141
4162911	136.4071	87.0121	0.0033	-0.0029	4.2 2.1	4142
4165018	138.6348	94.0962	-0.0098	-0.0005	4.4 1.9	4143
4165466	139.1306	90.8336	0.0074	-0.0007	2.4 2.9	4144
4168051	141.5901	94.6816	0.0125	-0.0089	2.6 2.0	4145
4172127	136.6635	84.8048	0.0013	-0.0047	3.6 4.1	4146
4173615	137.7823	80.7601	-0.0013	-0.0034	9.8 3.8	4147
4175454	139.6853	82.6376	0.0014	0.0103	3.9 2.9	4148
4183402	138.2403	74.4112	-0.0011	0.0083	3.2 4.0	4149
4184113	138.8905	76.7544	0.0035	-0.0053	2.7 2.4	4150
4188370	143.1735	75.3596	-0.0117	-0.0086	4.3 6.9	4151
4189456	143.9828	74.0340	0.0021	-0.0001	2.2 3.1	4152
4189891	144.6964	71.1237	-0.0032	-0.0014	2.5 4.2	4153
4194545	140.9808	65.0580	0.0040	-0.0010	2.3 2.0	4154
4205214	146.4691	144.2818	-0.0020	0.0011	3.7 3.6	4155
4206063	147.7570	146.1345	-0.0087	0.0039	7.1 5.7	4156
4206164	147.8039	145.1912	0.0134	-0.0125	4.4 4.8	4157
4207422	148.3861	142.8066	0.0033	0.0081	2.4 1.8	4158
4210806	141.9804	130.2322	-0.0033	0.0031	4.4 3.1	4159
4219847	150.2860	130.1532	-0.0037	-0.0061	1.0 2.3	4160
4220272	142.6540	127.1729	-0.0149	0.0009	2.7 2.2	4161
4221789	143.6649	122.2851	-0.0033	-0.0066	2.7 2.9	4162
4222200	143.8094	127.2637	-0.0008	0.0041	3.9 2.1	4163
4225079	147.0262	128.3013	-0.0113	-0.0043	5.4 3.9	4164
4235920	146.8131	112.7168	0.0004	-0.0040	6.8 3.6	4165
4241187	143.8598	110.3834	0.0083	-0.0020	2.8 2.6	4166
4243362	145.5073	109.1450	0.0050	0.0004	4.5 3.2	4167
4245047	147.0621	111.2021	0.0021	-0.0054	2.4 1.5	4168
4255937	147.6031	94.9917	0.0009	-0.0067	3.0 2.3	4169
4256004	147.8491	102.8788	-0.0090	0.0009	6.0 2.1	4170
4263114	145.6716	93.5451	-0.0010	-0.0068	4.8 4.1	4171
4264774	147.2895	88.4632	0.0086	-0.0088	1.7 4.0	4172
4269764	151.7637	88.4362	0.0106	-0.0007	3.0 2.0	4173
4275237	148.2694	84.0193	0.0062	-0.0026	3.8 1.6	4174
4275454	148.5393	82.5367	-0.0039	0.0065	3.7 2.1	4175
4277307	149.7909	83.1895	-0.0086	0.0007	5.8 4.0	4176
4278378	151.3476	83.0251	0.0015	-0.0066	3.0 1.1	4177
4281968	146.4902	69.8524	0.0093	-0.0028	2.3 1.2	4178
4282528	146.4965	73.1324	0.0009	0.0035	3.7 1.7	4179
4285264	149.2858	75.9165	-0.0023	-0.0090	3.5 3.0	4180
4286300	149.7101	75.4184	0.0040	-0.0102	2.4 1.3	4181
4286557	150.4017	73.1526	0.0046	0.0002	2.8 3.4	4182
4287082	151.0791	77.6481	0.0067	-0.0073	2.9 2.2	4183
4291575	147.6751	65.1757	-0.0006	-0.0022	4.2 2.1	4184
4292222	147.3175	67.7653	0.0104	-0.0063	3.8 2.0	4185
4302944	152.9096	138.2359	-0.0087	0.0023	2.8 0.9	4186
4304095	155.1114	145.9211	-0.0026	-0.0095	2.3 4.1	4187
4304740	154.6422	140.2979	-0.0004	0.0006	5.6 1.1	4188
4310096	151.5842	137.1780	0.0032	-0.0059	4.2 5.1	4189
4321991	152.5995	121.1554	-0.0032	0.0047	5.3 2.2	4190
4323306	153.4935	125.9408	0.0111	-0.0056	6.2 2.5	4191
4324402	154.3823	125.4179	-0.0074	0.0033	3.0 1.4	4192
4332401	152.8061	116.9299	-0.0080	0.0014	3.8 2.9	4193
4341810	152.3233	104.9177	-0.0138	0.0005	4.1 1.8	4194
4343013	153.8441	111.6246	-0.0092	0.0032	3.6 1.9	4195
4346822	156.8497	104.8188	0.0040	0.0014	6.2 3.1	4196
4347728	157.7350	105.1597	0.0008	-0.0005	1.4 2.9	4197
4351330	152.6226	100.7296	0.0086	-0.0043	4.2 5.3	4198
4352055	153.5791	102.9396	-0.0141	0.0028	2.2 2.0	4199
4352619	153.5073	97.4063	-0.0023	0.0112	2.8 9.9	4200
4358204	158.6270	101.2069	-0.0092	0.0011	2.1 2.8	4201
4358448	159.0428	99.2467	-0.0074	0.0068	5.8 1.8	4202
4358682	159.4360	97.9728	-0.0089	0.0019	4.1 2.2	4203
4361814	153.1469	87.6066	-0.0060	0.0081	5.8 2.5	4204
4362626	154.0959	89.1797	0.0038	0.0025	3.5 4.1	4205
4363533	154.8960	90.3409	-0.0057	0.0013	4.7 2.0	4206
4371838	154.0228	78.9027	0.0112	-0.0059	2.8 3.1	4207
4372678	155.1857	80.5603	-0.0024	0.0017	1.4 3.5	4208
4372984	155.4917	78.4342	-0.0044	-0.0054	3.8 1.5	4209
4374769	156.9940	79.7133	0.0009	-0.0005	3.2 3.4	4210

Ref	x'	y'	ξ	η	ζ	Ser
4136545	8.7169	-32.4541	0.16352	-0.35499	0.92046	4138
4136887	9.1614	-35.2093	0.16772	-0.38705	0.90668	4139
4150406	3.7310	-48.8833	0.09987	-0.54653	0.83146	4140
4154400	7.2118	-48.3153	0.14000	-0.53995	0.82997	4141
4162911	6.2500	-61.1933	0.12090	-0.69129	0.71239	4142
4165018	8.4403	-54.0951	0.15078	-0.60777	0.77967	4143
4165466	8.9539	-57.3564	0.15453	-0.64614	0.74741	4144
4168051	11.3935	-53.4943	0.18479	-0.60083	0.77773	4145
4172127	6.5184	-63.4001	0.12220	-0.71738	0.68588	4146
4173615	7.6596	-67.4405	0.13161	-0.76534	0.63003	4147
4175454	9.5532	-65.5525	0.15494	-0.74300	0.65111	4148
4183402	8.1521	-73.7894	0.13017	-0.84119	0.52484	4149
4184113	8.7899	-71.4420	0.14027	-0.81309	0.56499	4150
4188370	13.0821	-72.8152	0.18727	-0.82982	0.52566	4151
4189456	13.8989	-74.1371	0.19477	-0.84578	0.49671	4152
4189891	14.6285	-77.0448	0.19867	-0.88101	0.42936	4153
4194545	10.9442	-83.1319	0.14431	-0.95572	0.25645	4154
4205214	16.0062	-3.8507	0.25090	-0.02416	0.96771	4155
4206063	17.2845	-1.9906	0.26542	-0.00278	0.96413	4156
4206164	17.3366	-2.9341	0.26601	-0.01366	0.96387	4157
4207422	17.9319	-5.3165	0.27270	-0.04116	0.96122	4158
4210806	11.5917	-17.9286	0.19954	-0.18660	0.96196	4159
4219847	19.9010	-17.9648	0.29384	-0.18741	0.93730	4160
4220272	12.2821	-20.9855	0.20689	-0.22202	0.95284	4161
4221789	13.3199	-25.8699	0.21770	-0.27868	0.93538	4162
4222200	13.4375	-20.8887	0.22006	-0.22094	0.95014	4163
4225079	16.6499	-19.8342	0.25672	-0.20887	0.94365	4164
4235920	16.5210	-35.4255	0.25134	-0.38988	0.88590	4165
4241187	13.5792	-37.7750	0.21713	-0.41710	0.88255	4166
4243362	15.2340	-39.0053	0.23546	-0.43152	0.87083	4167
4245047	16.7783	-36.9395	0.25373	-0.40753	0.87724	4168
4255937	17.4072	-53.1530	0.25318	-0.59717	0.76111	4169
4256004	17.6106	-45.2618	0.25972	-0.50470	0.82330	4170
4263114	15.4828	-54.6101	0.23050	-0.61416	0.75477	4171
4264774	17.1288	-59.6856	0.24562	-0.67406	0.69664	4172
4269764	21.6049	-59.6895	0.29601	-0.67451	0.67633	4173
4275237	18.1331	-64.1260	0.25332	-0.72668	0.63857	4174
4275454	18.4112	-65.6078	0.25510	-0.74429	0.61722	4175
4277307	19.6597	-64.9483	0.26974	-0.73658	0.62024	4176
4278378	21.2179	-65.1047	0.28708	-0.73860	0.60996	4177
4281968	16.4299	-78.3073	0.21661	-0.89663	0.38618	4178
4282528	16.4184	-75.0261	0.22183	-0.85676	0.46556	4179
4285764	19.1938	-72.2266	0.25668	-0.82338	0.50612	4180
4286300	19.6209	-72.7227	0.26081	-0.82940	0.49404	4181
4286557	20.3250	-74.9857	0.26547	-0.85680	0.44206	4182
4287082	20.9784	-70.4851	0.27875	-0.80273	0.52719	4183
4291575	17.6405	-82.9796	0.21809	-0.95524	0.19989	4184
4292222	17.2688	-80.3909	0.22162	-0.92242	0.31626	4185
4302944	22.4819	-9.8656	0.32392	-0.09393	0.94141	4186
4304095	24.6430	-2.1662	0.34860	-0.00524	0.93726	4187
4304740	24.2040	-7.7939	0.34348	-0.07013	0.93654	4188
4310096	21.1617	-10.9307	0.30892	-0.10615	0.94514	4189
4321991	22.2640	-26.9540	0.31875	-0.29176	0.90182	4190
4323306	23.1325	-22.1622	0.32961	-0.23624	0.91408	4191
4324402	24.0245	-22.6807	0.33956	-0.24232	0.90884	4192
4332401	22.4936	-31.1799	0.32020	-0.34087	0.88390	4193
4341810	22.0756	-43.1991	0.31107	-0.48092	0.81973	4194
4343013	23.5607	-36.4818	0.33050	-0.40266	0.85360	4195
4346822	26.6043	-43.2747	0.36193	-0.48221	0.79780	4196
4347728	27.4881	-42.9291	0.37200	-0.47826	0.79554	4197
4351330	22.3976	-47.3872	0.31268	-0.52994	0.78829	4198
4352055	23.3426	-45.1714	0.32442	-0.50408	0.80041	4199
4352619	23.3007	-50.7071	0.32103	-0.56894	0.75713	4200
4358204	28.4018	-46.8787	0.38030	-0.52457	0.76170	4201
4358448	28.8284	-48.8375	0.38401	-0.54759	0.74343	4202
4358682	29.2286	-50.1098	0.38775	-0.56256	0.73018	4203
4361814	22.9931	-60.5123	0.31093	-0.68438	0.65951	4204
4362626	23.9340	-58.9337	0.32270	-0.66583	0.67271	4205
4363533	24.7281	-57.7679	0.33245	-0.65216	0.68130	4206
4371838	23.9165	-69.2148	0.31295	-0.78792	0.53032	4207
4372678	25.0708	-67.5506	0.32763	-0.76821	0.55001	4208
4372984	25.3885	-69.6759	0.32875	-0.79367	0.51187	4209
4374769	26.8844	-68.3886	0.34681	-0.77850	0.52312	4210

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
4376838	158.5353	78.9280	-0.0011	0.0007	2.7 1.6	4211
4377076	159.2058	85.7372	-0.0054	-0.0097	2.7 2.2	4212
4377739	159.4511	79.6795	-0.0066	-0.0078	2.0 4.1	4213
4378154	159.9294	85.0574	-0.0053	-0.0007	3.2 1.6	4214
4378431	160.0364	82.8531	0.0034	-0.0092	3.9 4.6	4215
4379749	161.2794	79.6939	0.0059	-0.0077	5.5 2.2	4216
4381999	155.8490	69.7713	0.0017	-0.0096	3.3 1.7	4217
4382084	155.5076	77.5682	-0.0077	-0.0028	3.7 1.2	4218
4382492	156.0007	74.4577	-0.0080	-0.0013	3.0 3.0	4219
4387364	160.1767	75.1330	-0.0075	-0.0025	2.8 1.9	4220
4388720	161.2708	72.2802	-0.0018	0.0018	3.5 2.3	4221
4389008	161.1812	77.3168	-0.0004	-0.0019	3.3 3.5	4222
4389451	162.0698	74.6469	-0.0059	-0.0026	2.9 1.6	4223
4389637	162.2373	72.5422	-0.0071	-0.0022	5.1 2.8	4224
4389830	162.4454	71.4790	-0.0069	-0.0049	3.2 3.0	4225
4391007	155.1416	69.0836	-0.0069	-0.0003	3.9 2.2	4226
4392051	156.4264	69.6073	0.0130	-0.0006	3.9 2.1	4227
4393082	157.6066	69.5838	-0.0069	0.0004	3.9 2.2	4228
4399002	162.7162	69.7229	-0.0076	-0.0084	2.2 1.7	4229
4399045	163.1837	69.4806	-0.0081	-0.0025	3.0 1.2	4230
4400190	160.5315	145.5559	-0.0026	-0.0023	3.4 2.1	4231
4403487	162.9954	142.3449	-0.0071	0.0142	4.4 1.8	4232
4422923	161.7683	121.0781	-0.0059	-0.0079	2.0 1.3	4233
4432270	162.2768	118.7603	-0.0079	0.0011	4.7 2.4	4234
4432400	161.6522	117.0049	-0.0029	-0.0021	6.4 0.8	4235
4432487	162.3757	116.4097	0.0065	-0.0029	3.7 3.5	4236
4433921	162.8886	112.6716	0.0037	-0.0083	3.2 1.5	4237
4434405	163.4570	116.5737	-0.0030	0.0039	3.0 4.2	4238
4441582	161.7387	107.4527	-0.0056	0.0009	2.5 2.0	4239
4444373	164.3226	109.0374	0.0137	-0.0078	4.7 4.0	4240
4446677	166.2367	106.1418	-0.0007	0.0007	2.1 3.4	4241
4447431	166.6914	108.4336	-0.0019	-0.0056	4.9 3.3	4242
4447562	166.9818	107.4002	-0.0088	-0.0025	2.1 3.9	4243
4449360	168.7466	109.3313	0.0019	0.0080	4.3 3.7	4244
4449490	169.0556	108.4943	-0.0040	-0.0008	3.3 2.2	4245
4450102	160.3375	102.2659	-0.0064	0.0015	2.8 2.6	4246
4460085	161.4303	94.3606	-0.0001	0.0027	5.6 3.3	4247
4460290	161.5844	93.1376	0.0007	0.0031	3.8 2.6	4248
4461824	162.2651	87.7112	-0.0055	-0.0074	2.3 2.7	4249
4463628	163.9277	89.0893	-0.0105	-0.0075	3.6 1.8	4250
4476250	167.3660	84.7246	-0.0012	0.0001	3.1 2.3	4251
4476629	167.4718	80.6420	0.0038	-0.0126	3.3 3.1	4252
4476737	167.5879	79.9978	-0.0061	-0.0070	2.6 3.0	4253
4477189	168.4480	84.8611	-0.0034	-0.0130	2.1 1.2	4254
4478947	169.7357	78.3817	-0.0070	0.0023	3.5 4.2	4255
4481168	163.7360	76.5469	-0.0063	-0.0014	4.4 4.1	4256
4482193	164.7909	76.9439	-0.0066	-0.0010	2.2 2.3	4257
4482861	165.6973	71.4936	0.0061	-0.0010	2.1 1.7	4258
4484392	166.9040	75.4949	-0.0070	-0.0031	2.5 1.8	4259
4485322	167.1926	75.3966	-0.0061	-0.0135	2.7 7.6	4260
4486191	168.5773	77.1823	-0.0055	-0.0018	2.2 3.3	4261
4487455	169.7109	74.4919	-0.0061	-0.0121	1.7 2.9	4262
4488680	171.2906	73.3761	-0.0011	-0.0019	2.4 9.9	4263
4505794	173.8812	140.0574	-0.0012	-0.0003	4.7 3.0	4264
4514420	172.3746	134.3983	-0.0106	-0.0031	1.8 2.0	4265
4514534	172.4808	133.0904	-0.0048	0.0101	3.8 2.2	4266
4532438	171.0056	116.3892	-0.0058	0.0050	6.1 1.2	4267
4534057	172.8758	119.9470	-0.0066	-0.0130	2.2 3.0	4268
4536575	174.9551	115.8704	0.0035	-0.0002	2.9 2.4	4269
4541166	170.4686	110.5568	0.0034	0.0014	4.1 2.9	4270
4541583	170.7995	107.3999	-0.0029	0.0035	3.3 3.7	4271
4544113	172.7211	110.8171	0.0053	-0.0004	2.3 2.2	4272
4547037	175.6472	111.4160	-0.0038	-0.0010	5.6 2.8	4273
4547167	175.9438	110.5459	-0.0043	-0.0005	2.8 3.6	4274
4547431	175.7475	108.4593	-0.0033	-0.0004	2.3 2.2	4275
4548848	176.9360	104.4979	-0.0025	0.0001	2.5 2.2	4276
4549745	177.7753	105.5651	-0.0038	-0.0001	2.1 2.1	4277
4549813	177.5103	104.9277	-0.0102	-0.0070	2.4 1.6	4278
4550067	169.8377	102.7601	0.0001	-0.0056	2.2 1.9	4279
4555567	174.6373	98.6176	-0.0020	-0.0058	3.3 2.3	4280
4556465	175.5250	99.6198	-0.0051	-0.0003	8.2 1.6	4281
4557489	176.6331	99.2484	-0.0028	0.0015	2.9 2.1	4282
4557623	176.1642	98.0958	-0.0017	0.0009	5.0 2.6	4283

Ref	x'	y'	ξ	η	ζ	Ser
4376838	28.4306	-69.1663	0.36297	-0.78808	0.49717	4211
4377076	29.0645	-62.3511	0.37706	-0.70694	0.59838	4212
4377739	29.3427	-68.4098	0.37392	-0.77918	0.50305	4213
4378154	29.7921	-63.0274	0.38450	-0.71508	0.58379	4214
4378431	29.9110	-65.2320	0.38367	-0.74133	0.55066	4215
4379749	31.1716	-68.3859	0.39404	-0.77925	0.48734	4216
4381999	25.7928	-78.3402	0.31925	-0.89895	0.29993	4217
4382084	25.4091	-70.5422	0.32792	-0.80406	0.49594	4218
4382492	25.9192	-73.6513	0.32929	-0.84162	0.42808	4219
4387364	30.0931	-72.9542	0.37598	-0.83408	0.40368	4220
4388720	31.2031	-75.8024	0.38279	-0.86919	0.31302	4221
4389008	31.0862	-70.7644	0.39002	-0.80783	0.44192	4222
4389451	31.9896	-73.4307	0.39572	-0.84036	0.37041	4223
4389637	32.1686	-75.5353	0.39362	-0.86621	0.30779	4224
4389830	32.3825	-76.5978	0.39344	-0.87947	0.26783	4225
4391007	25.0888	-79.0318	0.31002	-0.90736	0.28387	4226
4392051	26.3713	-78.5013	0.32508	-0.90113	0.28687	4227
4393082	27.5521	-78.5187	0.33763	-0.90172	0.27001	4228
4399002	32.6629	-78.3532	0.39108	-0.90184	0.18368	4229
4399045	33.1319	-78.5932	0.39475	-0.90526	0.15707	4230
4400190	30.0672	-2.5036	0.40957	-0.00956	0.91223	4231
4403487	32.5494	-5.7031	0.43730	-0.04669	0.89810	4232
4422923	31.4368	-26.9840	0.42179	-0.29291	0.85808	4233
4432270	31.9581	-29.3000	0.42699	-0.31988	0.84579	4234
4432400	31.3427	-31.0593	0.41960	-0.34027	0.84152	4235
4432487	32.0697	-31.6510	0.42754	-0.34723	0.83465	4236
4433921	32.6031	-35.3878	0.43224	-0.39081	0.81267	4237
4434405	33.1506	-31.4814	0.43966	-0.34538	0.82910	4238
4441582	31.4809	-40.6146	0.41766	-0.45165	0.78839	4239
4444373	34.0573	-39.0160	0.44705	-0.43330	0.78256	4240
4446677	35.9878	-41.9028	0.46723	-0.46729	0.75055	4241
4447431	36.4303	-39.6078	0.47317	-0.44053	0.76292	4242
4447562	36.7264	-40.6400	0.47600	-0.45264	0.75402	4243
4449360	38.4814	-38.6991	0.49629	-0.43021	0.75407	4244
4449490	38.7951	-39.5349	0.49940	-0.44002	0.74631	4245
4450102	30.1073	-45.8105	0.39990	-0.51226	0.76005	4246
4460085	31.2432	-53.7131	0.40794	-0.60519	0.68362	4247
4460290	31.4040	-54.9357	0.40889	-0.61961	0.66999	4248
4461824	32.1143	-60.3606	0.41256	-0.68382	0.60181	4249
4463628	33.7701	-58.9734	0.43201	-0.66767	0.60628	4250
4476250	37.2334	-63.3220	0.46597	-0.72001	0.51426	4251
4476629	37.3613	-67.4056	0.46261	-0.76892	0.44131	4252
4476737	37.4809	-68.0494	0.46305	-0.77670	0.42699	4253
4477189	38.3151	-63.1799	0.47789	-0.71856	0.50527	4254
4478947	39.6383	-69.6550	0.48373	-0.79678	0.36215	4255
4481168	33.6462	-71.5214	0.41669	-0.81761	0.39735	4256
4482193	34.6994	-71.1188	0.42866	-0.81302	0.39402	4257
4482861	35.6356	-76.5665	0.42699	-0.88058	0.20558	4258
4484392	36.8211	-72.5575	0.44885	-0.83121	0.32807	4259
4485322	37.1104	-72.6543	0.45171	-0.83250	0.32078	4260
4486191	38.4859	-70.8608	0.46951	-0.81106	0.34892	4261
4487455	39.6345	-73.5464	0.47594	-0.84461	0.24519	4262
4488680	41.2209	-74.6544	0.48807	-0.85970	0.15067	4263
4505794	43.4518	-7.9353	0.55848	-0.07376	0.82623	4264
4514420	41.9752	-13.6042	0.54161	-0.13909	0.82905	4265
4514534	42.0886	-14.9121	0.54269	-0.15424	0.82565	4266
4532438	40.7031	-31.6270	0.52352	-0.34807	0.77767	4267
4534057	42.5548	-28.0582	0.54509	-0.30682	0.78022	4268
4536575	44.6570	-32.1256	0.56696	-0.35451	0.74356	4269
4541166	40.1975	-37.4643	0.51578	-0.41606	0.74891	4270
4541583	40.5456	-40.6207	0.51825	-0.45299	0.72541	4271
4544113	42.4494	-37.1923	0.54073	-0.41324	0.73269	4272
4547037	45.3734	-36.5781	0.57313	-0.40658	0.71148	4273
4547167	45.6749	-37.4470	0.57607	-0.41679	0.70316	4274
4547431	45.4898	-39.5354	0.57310	-0.44117	0.69059	4275
4548848	46.7002	-43.4921	0.58433	-0.48777	0.64857	4276
4549745	47.5340	-42.4202	0.59400	-0.47537	0.64899	4277
4549813	47.2724	-43.0592	0.59080	-0.48281	0.64641	4278
4550067	39.6085	-45.2671	0.50560	-0.50725	0.69791	4279
4555567	44.4324	-49.3864	0.55605	-0.55656	0.61730	4280
4556465	45.3150	-48.3793	0.56632	-0.54489	0.61836	4281
4557489	46.4255	-48.7451	0.57817	-0.54945	0.60318	4282
4557623	45.9627	-49.9005	0.57236	-0.56295	0.59623	4283

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
4560258	170.3570	92.5503	-0.0026	-0.0058	0.7 0.7	4284
4562370	172.3565	92.3381	-0.0029	-0.0005	0.4 0.4	4285
4564916	174.1395	86.8099	-0.0014	-0.0054	7.1 1.9	4286
4565134	174.6481	93.7125	-0.0013	0.0010	4.8 4.6	4287
4565716	174.8661	88.4813	0.0064	0.0011	4.2 3.7	4288
4570730	171.2726	80.6576	-0.0069	-0.0068	3.4 2.7	4289
4571106	171.4168	85.1015	-0.0016	0.0059	3.0 6.3	4290
4571765	172.5712	80.2628	-0.0069	-0.0023	3.6 2.1	4291
4571861	172.6138	79.7155	0.0037	-0.0132	3.9 2.7	4292
4573155	173.7130	85.2657	-0.0051	-0.0005	1.5 2.6	4293
4573602	173.8155	81.3938	-0.0035	-0.0022	2.6 2.6	4294
4573795	174.7410	80.2939	-0.0059	-0.0017	4.6 2.0	4295
4575431	175.6868	83.2111	-0.0054	-0.0076	2.8 6.2	4296
4575627	175.8017	80.9931	-0.0058	-0.0021	4.7 2.9	4297
4577577	178.2022	81.9215	-0.0023	-0.0030	4.1 2.5	4298
4578402	178.2119	83.1292	0.0019	0.0021	3.0 1.9	4299
4578686	179.4090	81.1768	-0.0072	-0.0027	4.0 4.9	4300
4578791	179.5265	80.7658	0.0051	-0.0030	1.7 8.3	4301
4579480	179.8923	83.3207	-0.0071	-0.0048	4.5 3.2	4302
4600575	178.2163	141.7262	-0.0081	-0.0029	4.9 1.3	4303
4602799	180.3053	139.6831	0.0003	0.0111	3.8 1.2	4304
4610158	178.1014	136.3123	-0.0028	0.0012	3.1 1.0	4305
4611993	179.3984	129.8354	-0.0054	0.0092	2.7 2.3	4306
4621573	179.3440	124.6658	0.0116	-0.0004	2.9 4.2	4307
4621955	179.2272	121.0169	0.0060	-0.0068	3.5 1.4	4308
4624909	181.4897	120.7463	-0.0012	-0.0007	3.3 3.3	4309
4626472	183.9060	125.6617	0.0008	-0.0008	2.9 3.4	4310
4628812	185.2161	122.2075	-0.0002	0.0003	1.9 2.9	4311
4629109	185.9381	127.6252	-0.0112	-0.0007	0.0 2.1	4312
4633489	181.4511	116.4280	0.0054	0.0058	5.3 2.2	4313
4634258	182.0671	118.1716	-0.0017	0.0011	8.2 8.7	4314
4639778	186.9920	114.0439	-0.0011	-0.0021	2.4 2.7	4315
4640138	178.4408	110.4675	-0.0029	0.0004	2.6 1.5	4316
4640331	178.4682	109.3641	-0.0027	0.0031	2.1 5.6	4317
4641215	179.1856	109.8783	-0.0135	-0.0002	2.4 6.3	4318
4641267	179.6389	109.7138	-0.0141	0.0008	2.3 2.8	4319
4641506	179.1573	107.2394	-0.0054	-0.0003	3.2 4.0	4320
4645611	182.9288	106.8241	-0.0064	0.0009	2.1 1.3	4321
4646744	184.2111	105.7963	-0.0007	-0.0003	2.3 2.6	4322
4646873	184.5939	105.0634	-0.0016	0.0003	4.2 4.4	4323
4648845	186.1052	104.9045	-0.0024	0.0004	3.2 2.7	4324
4649554	187.0347	107.5735	-0.0006	-0.0009	2.6 2.2	4325
4649619	186.6940	106.2318	-0.0019	-0.0025	3.6 2.6	4326
4650485	179.4422	99.7573	0.0009	0.0006	2.4 2.0	4327
4651068	179.9341	102.8899	-0.0033	-0.0016	4.1 1.7	4328
4653760	182.1538	97.6142	-0.0033	-0.0011	3.6 3.9	4329
4654256	182.7434	101.3387	-0.0038	-0.0006	5.3 2.8	4330
4654395	183.0787	100.5667	-0.0015	-0.0004	2.5 3.1	4331
4654477	183.0170	99.5864	-0.0048	0.0031	2.2 1.7	4332
4654777	183.1387	97.0175	-0.0032	-0.0016	2.8 7.1	4333
4654808	182.6163	96.0524	0.0058	-0.0065	2.8 5.0	4334
4655753	183.9629	97.4177	-0.0042	-0.0019	4.1 8.1	4335
4659506	187.0430	98.9229	-0.0038	-0.0007	7.5 4.0	4336
4660420	179.4457	91.7037	0.0062	-0.0036	3.8 1.9	4337
4661370	180.7663	92.5479	-0.0020	-0.0004	2.3 2.1	4338
4661560	180.8202	90.8457	-0.0095	-0.0039	3.2 6.8	4339
4663120	181.9835	94.1769	0.0059	-0.0017	7.0 8.3	4340
4666011	184.6321	95.0033	-0.0046	-0.0006	2.5 4.6	4341
4666272	185.3502	93.3012	-0.0010	-0.0031	4.4 1.4	4342
4669425	188.0381	91.4431	-0.0054	-0.0024	3.7 4.2	4343
4671364	181.6863	83.9235	0.0030	-0.0100	4.8 2.8	4344
4671680	182.2807	81.7968	0.0010	-0.0075	2.4 1.7	4345
4676079	186.3581	86.1567	-0.0056	-0.0040	3.5 6.7	4346
4702612	188.7332	141.2082	0.0045	-0.0066	4.2 3.2	4347
4703305	189.4844	143.5930	0.0039	-0.0018	2.3 3.1	4348
4703383	190.3052	143.7704	0.0034	-0.0049	2.0 3.9	4349
4709934	195.4303	138.5974	0.0038	-0.0079	2.8 1.1	4350
4716240	192.7839	136.2944	0.0085	0.0007	3.8 3.1	4351
4721394	188.6877	126.4149	-0.0002	-0.0025	2.9 3.7	4352
4722185	189.4420	128.0064	0.0013	-0.0020	3.5 2.6	4353
4723616	189.8574	123.6449	0.0064	0.0124	3.3 2.9	4354
4724997	191.5694	121.0466	0.0073	-0.0024	4.2 5.6	4355
4731204	188.0391	118.6621	-0.0009	-0.0009	3.0 1.2	4356

Ref	x'	y'	ξ	η	ζ	Ser
4560258	40.1832	-55.4780	0.50526	-0.62753	0.59238	4284
4562370	42.1847	-55.6800	0.52694	-0.63035	0.57008	4285
4564916	43.9982	-61.2010	0.54139	-0.69641	0.47107	4286
4565134	44.4697	-54.2932	0.55289	-0.61447	0.56280	4287
4565716	44.7161	-59.5252	0.55085	-0.67663	0.48861	4288
4570730	41.1635	-67.3703	0.50341	-0.76961	0.39278	4289
4571106	41.2837	-62.9241	0.51030	-0.71625	0.47601	4290
4571765	42.4647	-67.7586	0.51661	-0.77476	0.36452	4291
4571861	42.5103	-68.3059	0.51621	-0.78142	0.35059	4292
4573155	43.5799	-62.7480	0.53517	-0.71479	0.45019	4293
4573602	43.7034	-66.6208	0.53139	-0.76142	0.37130	4294
4573795	44.6352	-67.7163	0.53940	-0.77508	0.32909	4295
4575431	45.5656	-64.7931	0.55365	-0.74001	0.38191	4296
4575627	45.6926	-67.0114	0.55157	-0.76694	0.32799	4297
4577577	48.0890	-66.0702	0.57788	-0.75654	0.30610	4298
4578402	48.0921	-64.8621	0.57993	-0.74184	0.33668	4299
4578686	49.3003	-66.8090	0.58871	-0.76623	0.25751	4300
4578791	49.4200	-67.2195	0.58901	-0.77137	0.24094	4301
4579480	49.7722	-64.6618	0.59752	-0.74018	0.30840	4302
4600575	47.7796	-6.2435	0.60631	-0.05487	0.79333	4303
4602799	49.8805	-8.2766	0.62926	-0.07870	0.77320	4304
4610158	47.6939	-11.6600	0.60494	-0.11746	0.78756	4305
4611993	49.0265	-18.1326	0.61865	-0.19264	0.76169	4306
4621573	49.0000	-23.3044	0.61725	-0.25265	0.74510	4307
4621955	48.9029	-26.9552	0.61521	-0.29507	0.73106	4308
4624909	51.1678	-27.2142	0.63988	-0.29853	0.70812	4309
4626472	53.5584	-22.2846	0.66727	-0.24169	0.70451	4310
4628812	54.8877	-25.7333	0.68078	-0.28208	0.67600	4311
4629109	55.5807	-20.3099	0.68971	-0.21919	0.69012	4312
4633489	51.1525	-31.5343	0.63827	-0.34885	0.68623	4313
4634258	51.7593	-29.7869	0.64550	-0.32861	0.68946	4314
4639778	56.7085	-33.8907	0.69746	-0.37767	0.60903	4315
4640138	48.1733	-37.5125	0.60337	-0.41805	0.67911	4316
4640331	48.2066	-38.6162	0.60323	-0.43096	0.67111	4317
4641215	48.9215	-38.0981	0.61126	-0.42505	0.66760	4318
4641267	49.3759	-38.2603	0.61613	-0.42704	0.66182	4319
4641506	48.9075	-40.7381	0.60983	-0.45595	0.64824	4320
4645611	52.6827	-41.1341	0.65053	-0.46148	0.60320	4321
4646744	53.9711	-42.1557	0.66382	-0.47381	0.57866	4322
4646873	54.3580	-42.8869	0.66754	-0.48251	0.56708	4323
4648845	55.8707	-43.0380	0.68363	-0.48471	0.54562	4324
4649554	56.7862	-40.3633	0.69502	-0.45354	0.55790	4325
4649619	56.4526	-41.7072	0.69066	-0.46923	0.55028	4326
4650485	49.2330	-48.2215	0.60894	-0.54395	0.57734	4327
4651068	49.7081	-45.0852	0.61610	-0.50715	0.60268	4328
4653760	51.9572	-50.3514	0.63666	-0.56983	0.51958	4329
4654256	52.5269	-46.6225	0.64549	-0.52597	0.55380	4330
4654395	52.8665	-47.3930	0.64860	-0.53515	0.54124	4331
4654477	52.8101	-48.3740	0.64728	-0.54671	0.53116	4332
4654777	52.9457	-50.9432	0.64673	-0.57713	0.49866	4333
4654808	52.4284	-51.9114	0.64041	-0.58844	0.49358	4334
4655753	53.7681	-50.5386	0.65580	-0.57260	0.49199	4335
4659506	56.8413	-49.0170	0.68957	-0.55560	0.46455	4336
4660420	49.2801	-56.2780	0.60291	-0.63931	0.47727	4337
4661370	50.5966	-55.4267	0.61774	-0.62960	0.47117	4338
4661560	50.6597	-57.1293	0.61671	-0.64989	0.44420	4339
4663120	51.8055	-53.7908	0.63212	-0.61054	0.47714	4340
4666011	54.4506	-52.9505	0.66088	-0.60144	0.44889	4341
4666272	55.1782	-54.6495	0.66680	-0.62196	0.41056	4342
4669425	57.8772	-56.4944	0.69232	-0.64528	0.32296	4343
4671364	51.5636	-64.0495	0.61675	-0.73362	0.28535	4344
4671680	52.1697	-66.1740	0.61817	-0.76022	0.19984	4345
4676079	56.2252	-61.7914	0.66709	-0.70876	0.22948	4346
4702612	58.3034	-6.7075	0.72116	-0.06221	0.68997	4347
4703305	59.0420	-4.3179	0.72926	-0.03477	0.68335	4348
4703383	59.8622	-4.1362	0.73813	-0.03286	0.67386	4349
4709934	65.0172	-9.2847	0.79305	-0.09369	0.60191	4350
4716240	62.3823	-11.6022	0.76462	-0.11982	0.63324	4351
4721394	58.3379	-21.5064	0.71924	-0.23373	0.65427	4352
4722185	59.0839	-19.9105	0.72767	-0.21536	0.65125	4353
4723616	59.5230	-24.2714	0.73123	-0.26618	0.62805	4354
4724997	61.2498	-26.8618	0.74889	-0.29683	0.59250	4355
4731204	57.7310	-29.2654	0.71031	-0.32392	0.62492	4356

POSITIONS ON THE DISK

Ref	x	y	δx	δy	weights	Ser
4731885	188.9157	113.4374	0.0011	-0.0006	4.9 5.6	4357
4732014	188.9962	120.3691	-0.0049	0.0036	5.5 3.5	4358
4738042	194.8895	120.7026	-0.0003	-0.0032	2.2 3.5	4359
4740122	187.4914	111.1443	-0.0002	-0.0009	7.3 2.6	4360
4740148	187.7995	110.6114	-0.0022	0.0005	3.3 5.4	4361
4741323	188.5619	109.2934	-0.0017	-0.0011	3.9 3.3	4362
4746674	193.8789	106.8077	-0.0024	-0.0016	2.0 4.2	4363
4750535	188.3748	99.0367	0.0022	-0.0007	3.7 2.2	4364
4750758	188.6531	97.0645	0.0027	-0.0015	2.9 2.2	4365
4751552	189.4692	99.2727	-0.0034	-0.0011	5.7 3.1	4366
4753781	191.7623	97.7866	-0.0034	-0.0017	2.8 2.9	4367
4757272	195.2950	101.9414	-0.0024	-0.0026	3.3 2.3	4368
4761390	190.4987	92.8076	-0.0035	-0.0031	2.6 3.0	4369
4806156	202.2934	145.4421	0.0059	0.0093	2.4 1.5	4370
4806307	201.7321	143.6361	0.0009	-0.0113	3.9 2.9	4371
4806928	201.9778	138.4117	0.0038	-0.0025	3.8 2.5	4372
4809349	205.0646	143.5310	0.0046	-0.0041	3.2 2.9	4373
4809932	204.9725	139.0120	0.0054	-0.0032	4.3 3.8	4374
4811830	197.3511	131.1702	0.0120	0.0017	2.4 1.6	4375
4819464	205.2826	134.5052	0.0025	-0.0030	2.6 2.8	4376
4824673	200.7611	124.1839	0.0009	-0.0023	3.1 3.0	4377
4827361	203.4844	127.0185	0.0021	-0.0038	2.7 1.3	4378
4828134	204.1523	128.5084	0.0028	-0.0037	3.0 4.5	4379
4828722	204.2765	123.4809	0.0012	-0.0033	3.2 4.2	4380
4835197	202.1475	119.6266	0.0010	-0.0018	3.0 3.1	4381
4837031	203.4508	121.0092	0.0010	-0.0044	2.8 3.3	4382
4838420	204.5620	117.7426	-0.0008	-0.0044	5.2 1.5	4383
4843435	200.2052	108.7077	-0.0015	-0.0027	2.7 2.1	4384
4844254	201.3023	110.5150	0.0001	-0.0019	3.0 5.8	4385
4845536	202.4755	107.8851	-0.0004	-0.0028	2.6 2.9	4386
4906184	212.5258	146.0084	0.0053	-0.0042	2.7 1.3	4387
4907252	213.3162	145.3790	-0.0002	-0.0046	3.5 1.8	4388
4907405	212.8232	143.3793	0.0054	-0.0051	2.6 1.8	4389
4910720	206.0202	132.3253	0.0023	-0.0037	5.1 2.2	4390
4911045	207.0050	137.9386	0.0037	-0.0045	3.5 1.7	4391
4912298	208.5746	135.9699	0.0123	-0.0040	3.8 2.8	4392
4914314	209.8054	135.5266	0.0042	-0.0048	2.7 2.4	4393
4915855	211.4441	131.2518	0.0015	-0.0057	2.8 3.3	4394
4922717	208.2710	123.2712	0.0015	-0.0060	4.0 3.8	4395
4923535	209.4162	125.2149	0.0015	-0.0046	2.8 3.3	4396
4930157	206.7881	119.7748	0.0119	-0.0032	3.9 3.6	4397

Ref	x'	y'	ξ	η	ζ	Ser
4731885	58.6362	-34.4875	0.71785	-0.38518	0.57994	4357
4732014	58.6792	-27.5529	0.72112	-0.30419	0.62246	4358
4738042	64.5730	-27.1888	0.78407	-0.30165	0.54244	4359
4740122	57.2237	-36.7888	0.70162	-0.41173	0.58155	4360
4740148	57.5348	-37.3203	0.70468	-0.41805	0.57329	4361
4741323	58.3047	-38.6349	0.71220	-0.43369	0.55199	4362
4746674	63.6372	-41.0941	0.76680	-0.46446	0.44305	4363
4750535	58.1730	-48.8963	0.70364	-0.55466	0.44412	4364
4750758	58.4620	-50.8678	0.70483	-0.57820	0.41098	4365
4751552	59.2665	-48.6546	0.71527	-0.55221	0.42832	4366
4753781	61.5686	-50.1294	0.73753	-0.57077	0.36094	4367
4757272	65.0802	-45.9549	0.77745	-0.52273	0.34976	4368
4761390	60.3314	-55.1167	0.71884	-0.63000	0.29389	4369
4806156	71.8460	-2.4021	0.86547	-0.01625	0.50069	4370
4806307	71.2943	-4.2116	0.85966	-0.03696	0.50952	4371
4806928	71.5683	-9.4367	0.86205	-0.09754	0.49735	4372
4809349	74.6286	-4.2996	0.89414	-0.03925	0.44606	4373
4809932	74.5609	-8.8207	0.89301	-0.09158	0.44061	4374
4811830	66.9790	-16.7047	0.81265	-0.18032	0.55416	4375
4819464	74.8955	-13.3276	0.89562	-0.14404	0.42086	4376
4824673	70.4281	-23.6760	0.84664	-0.26273	0.46279	4377
4827361	73.1371	-20.8263	0.87552	-0.23061	0.42460	4378
4828134	73.7972	-19.3324	0.88276	-0.21347	0.41852	4379
4828722	73.9487	-24.3611	0.88229	-0.27231	0.38393	4380
4835197	71.8397	-28.2278	0.85907	-0.31662	0.40220	4381
4837031	73.1360	-26.8380	0.87290	-0.30094	0.38404	4382
4838420	74.2653	-30.1000	0.88222	-0.33989	0.32582	4383
4843435	69.9557	-39.1607	0.83262	-0.44457	0.33029	4384
4844254	71.0434	-37.3471	0.84496	-0.42369	0.32639	4385
4845536	72.2313	-39.9719	0.85388	-0.45570	0.25144	4386
4906184	82.0793	-1.7828	0.96787	-0.01410	0.25107	4387
4907252	82.8735	-2.4083	0.97511	-0.02195	0.22061	4388
4907405	82.3911	-4.4113	0.97056	-0.04477	0.23667	4389
4910720	75.6452	-15.5045	0.90266	-0.16972	0.39547	4390
4911045	76.6000	-9.8840	0.91355	-0.10483	0.39299	4391
4912298	78.1809	-11.8454	0.92891	-0.12843	0.34732	4392
4914314	79.4146	-12.2825	0.94087	-0.13423	0.31105	4393
4915855	81.0770	-16.5504	0.95502	-0.18523	0.23156	4394
4922717	77.9459	-24.5503	0.92141	-0.27686	0.27267	4395
4923535	79.0810	-22.6000	0.93330	-0.25473	0.25312	4396
4930157	76.4813	-28.0556	0.90513	-0.31717	0.28311	4397

LIMB PROFILE POSITIONS

x	y	δr	P	x'	y'	Ser
130.0642	61.7966	0.0815	180.0932	0.0410	-86.4508	4398
129.4562	61.7787	0.1038	179.6897	-0.5671	-86.4719	4399
128.4202	61.9227	-0.0231	179.0001	-1.6043	-86.3331	4400
128.1472	61.8907	0.0155	178.8193	-1.8772	-86.3665	4401
127.5563	61.8868	0.0367	178.4270	-2.4684	-86.3735	4402
127.3075	61.9497	-0.0177	178.2604	-2.7176	-86.3119	4403
127.0335	61.9827	-0.0406	178.0775	-2.9919	-86.2802	4404
126.8605	62.0167	-0.0677	177.9617	-3.1651	-86.2471	4405
126.6735	62.0237	-0.0669	177.8373	-3.3522	-86.2411	4406
126.3045	62.0717	-0.0982	177.5906	-3.7216	-86.1949	4407
126.1435	62.0598	-0.0785	177.4841	-3.8826	-86.2078	4408
125.9005	62.0968	-0.1032	177.3214	-4.1259	-86.1720	4409
125.5165	62.1578	-0.1434	177.0640	-4.5104	-86.1129	4410
125.2535	62.1408	-0.1112	176.8900	-4.7734	-86.1313	4411
124.9655	62.1598	-0.1126	176.6979	-5.0616	-86.1137	4412
124.6926	62.1158	-0.0511	176.5186	-5.3345	-86.1591	4413
124.4836	62.1199	-0.0411	176.3798	-5.5436	-86.1562	4414
124.1846	62.0639	0.0357	176.1842	-5.8424	-86.2137	4415
123.8456	62.0799	0.0447	175.9589	-6.1816	-86.1995	4416
123.4736	62.1329	0.0208	175.7098	-6.5540	-86.1483	4417
123.1346	62.2889	-0.1070	175.4767	-6.8940	-85.9940	4418
122.8086	62.2600	-0.0501	175.2623	-7.2200	-86.0247	4419
122.3968	62.3509	-0.1036	174.9841	-7.6323	-85.9358	4420
121.9698	62.4049	-0.1168	174.6979	-8.0598	-85.8840	4421
121.6108	62.3829	-0.0591	174.4618	-8.4188	-85.9078	4422
121.2088	62.2870	0.0782	174.2028	-8.8205	-86.0059	4423
120.8738	62.2460	0.1551	173.9847	-9.1554	-86.0486	4424
120.5738	62.3340	0.1011	173.7804	-9.4560	-85.9621	4425
120.2829	62.4900	-0.0203	173.5764	-9.7479	-85.8076	4426
120.0927	62.5472	-0.0547	173.4464	-9.9385	-85.7513	4427
119.8167	62.5922	-0.0660	173.2606	-10.2148	-85.7077	4428
119.4317	62.6103	-0.0359	173.0051	-10.6001	-85.6917	4429
119.3217	62.6323	-0.0437	172.9307	-10.7103	-85.6702	4430
118.8937	62.7303	-0.0850	172.6400	-11.1389	-85.5744	4431
118.5017	62.7843	-0.0854	172.3768	-11.5314	-85.5223	4432
118.2607	62.8743	-0.1410	172.2097	-11.7730	-85.4335	4433
117.7607	62.9044	-0.0989	171.8775	-12.2733	-85.4061	4434
117.2417	62.9864	-0.1025	171.5280	-12.7930	-85.3267	4435
117.0837	63.0024	-0.0941	171.4225	-12.9511	-85.3115	4436
116.8907	63.0354	-0.0967	171.2922	-13.1444	-85.2795	4437
116.6827	63.0624	-0.0905	171.1528	-13.3526	-85.2535	4438
116.1667	63.1554	-0.0988	170.8040	-13.8693	-85.1631	4439
115.7237	63.2234	-0.0917	170.5059	-14.3128	-85.0974	4440
115.0907	63.2785	-0.0359	170.0850	-14.9463	-85.0456	4441
114.3497	63.4235	-0.0440	169.5831	-15.6884	-84.9043	4442
114.1337	63.4845	-0.0635	169.4344	-15.9048	-84.8444	4443
113.6367	63.5435	-0.0264	169.1026	-16.4023	-84.7879	4444
113.2557	63.6456	-0.0516	168.8409	-16.7840	-84.6878	4445
112.7687	63.7496	-0.0554	168.5098	-17.2718	-84.5863	4446
112.2507	63.8806	-0.0762	168.1547	-17.7907	-84.4579	4447
111.8027	63.9376	-0.0365	167.8556	-18.2392	-84.4031	4448
111.0687	64.0907	-0.0246	167.3572	-18.9743	-84.2538	4449
110.9537	64.1267	-0.0338	167.2774	-19.0895	-84.2184	4450
110.5277	64.2247	-0.0323	166.9868	-19.5162	-84.1225	4451
110.0718	64.2737	0.0262	166.6845	-19.9726	-84.0759	4452
109.7938	64.3087	0.0581	166.4996	-20.2509	-84.0423	4453
109.5008	64.3178	0.1197	166.3094	-20.5441	-84.0348	4454
109.3348	64.3808	0.0989	166.1924	-20.7105	-83.9726	4455
109.0748	64.5248	0.0230	166.0015	-20.9714	-83.8299	4456
108.7398	64.6138	0.0201	165.7713	-21.3070	-83.7425	4457
108.5078	64.6318	0.0612	165.6191	-21.5392	-83.7257	4458
108.2818	64.6598	0.0917	165.4693	-21.7654	-83.6989	4459
107.9338	64.7778	0.0674	165.2259	-22.1142	-83.5826	4460
107.5928	64.8948	0.0438	164.9869	-22.4560	-83.4673	4461
107.4580	64.9930	-0.0152	164.8833	-22.5913	-83.3697	4462
107.2420	65.0731	-0.0346	164.7307	-22.8078	-83.2908	4463
106.8850	65.1441	-0.0064	164.4895	-23.1653	-83.2216	4464
106.5050	65.3231	-0.0742	164.2139	-23.5464	-83.0445	4465
105.9180	65.4591	-0.0402	163.8139	-24.1344	-82.9114	4466
105.1300	65.7382	-0.0801	163.2587	-24.9242	-82.6364	4467
104.3101	65.9272	-0.0165	162.7007	-25.7455	-82.4515	4468
103.8520	66.0612	-0.0045	162.3837	-26.2045	-82.3198	4469
103.3661	66.1432	0.0684	162.0599	-26.6911	-82.2402	4470

LIMB PROFILE POSITIONS

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x	y	δr	P	x'	y'	Ser
102.8441	66.3613	0.0265	161.6852	-27.2145	-82.0248	4471
102.2601	66.5174	0.0670	161.2846	-27.7995	-81.8716	4472
101.7511	66.7084	0.0539	160.9237	-28.3097	-81.6832	4473
101.2491	66.9134	0.0287	160.5639	-28.8130	-81.4807	4474
100.3401	67.2985	-0.0212	159.9088	-29.7245	-81.1002	4475
99.6589	67.5393	-0.0065	159.4287	-30.4072	-80.8628	4476
99.3979	67.5773	0.0514	159.2577	-30.6685	-80.8261	4477
99.0179	67.7303	0.0460	158.9857	-31.0495	-80.6750	4478
98.7529	67.7753	0.1008	158.8110	-31.3148	-80.6314	4479
98.2749	67.9753	0.0913	158.4671	-31.7941	-80.4338	4480
98.0799	68.0323	0.1111	158.3329	-31.9895	-80.3778	4481
97.3188	68.3430	0.1116	157.7873	-32.7525	-80.0709	4482
96.4619	68.6989	0.1158	157.1715	-33.6118	-79.7192	4483
95.7599	68.9779	0.1383	156.6704	-34.3156	-79.4437	4484
95.3029	69.2329	0.0894	156.3246	-34.7741	-79.1910	4485
94.6039	69.5189	0.1154	155.8237	-35.4749	-78.9086	4486
93.8289	69.8658	0.1249	155.2602	-36.2521	-78.5654	4487
92.9909	70.2478	0.1384	154.6492	-37.0925	-78.1877	4488
92.2064	70.6799	0.0931	154.0556	-37.8796	-77.7595	4489
91.9154	70.8509	0.0690	153.8321	-38.1716	-77.5899	4490
91.5354	71.0399	0.0703	153.5503	-38.5528	-77.4028	4491
91.3414	71.1458	0.0632	153.4036	-38.7475	-77.2978	4492
91.1214	71.2288	0.0890	153.2484	-38.9680	-77.2159	4493
90.9744	71.3168	0.0777	153.1349	-39.1155	-77.1286	4494
90.7724	71.4298	0.0697	152.9813	-39.3182	-77.0166	4495
90.5844	71.5338	0.0638	152.8387	-39.5069	-76.9136	4496
90.4214	71.6048	0.0762	152.7209	-39.6703	-76.8434	4497
90.0604	71.7668	0.1006	152.4588	-40.0323	-76.6832	4498
89.7354	72.0128	0.0358	152.1915	-40.3588	-76.4388	4499
89.4854	72.1468	0.0359	152.0031	-40.6096	-76.3061	4500
89.2494	72.2738	0.0363	151.8251	-40.8464	-76.1802	4501
88.8084	72.4518	0.0914	151.5115	-41.2885	-76.0045	4502
88.5752	72.6185	0.0581	151.3224	-41.5227	-75.8389	4503
88.2383	72.8205	0.0455	151.0616	-41.8609	-75.6386	4504
87.7053	73.1185	0.0480	150.6560	-42.3957	-75.3432	4505
87.4889	73.2057	0.0796	150.5025	-42.6127	-75.2571	4506
86.9149	73.5187	0.0956	150.0686	-43.1886	-74.9469	4507
86.7269	73.5967	0.1232	149.9348	-43.3771	-74.8699	4508
86.2349	73.8807	0.1287	149.5578	-43.8708	-74.5883	4509
86.0409	73.9997	0.1259	149.4068	-44.0655	-74.4703	4510
85.6829	74.2217	0.1202	149.1273	-44.4249	-74.2500	4511
85.4329	74.4157	0.0842	148.9186	-44.6760	-74.0572	4512
85.0779	74.6177	0.0976	148.6476	-45.0322	-73.8570	4513
84.9099	74.7007	0.1153	148.5238	-45.2007	-73.7748	4514
84.6949	74.8877	0.0700	148.3371	-45.4168	-73.5889	4515
84.4239	75.1577	-0.0149	148.0892	-45.6894	-73.3202	4516
84.1039	75.3777	-0.0296	147.8313	-46.0107	-73.1017	4517
83.9109	75.5377	-0.0606	147.6659	-46.2047	-72.9427	4518
83.5259	75.7427	-0.0245	147.3769	-46.5909	-72.7396	4519
83.3509	75.8607	-0.0282	147.2366	-46.7666	-72.6224	4520
83.1919	75.9397	-0.0075	147.1194	-46.9261	-72.5442	4521
82.9209	76.1717	-0.0526	146.8841	-47.1985	-72.3135	4522
82.5929	76.3507	-0.0206	146.6366	-47.5276	-72.1362	4523
82.3794	76.5619	-0.0775	146.4406	-47.7423	-71.9260	4524
81.7464	76.9909	-0.0777	145.9319	-48.3779	-71.5001	4525
81.4524	77.2249	-0.1040	145.6826	-48.6733	-71.2675	4526
80.6502	77.7749	-0.0955	145.0355	-49.4788	-70.7214	4527
80.0322	78.1479	-0.0402	144.5568	-50.0990	-70.3515	4528
79.3941	78.5929	-0.0251	144.0398	-50.7397	-69.9096	4529
79.0901	78.7779	0.0062	143.8042	-51.0448	-69.7261	4530
78.5191	79.1619	0.0399	143.3476	-51.6181	-69.3449	4531
78.1641	79.4099	0.0562	143.0601	-51.9746	-69.0987	4532
77.8111	79.7899	-0.0311	142.7204	-52.3298	-68.7203	4533
77.3751	80.1252	-0.0292	142.3548	-52.7678	-68.3872	4534
76.7981	80.6552	-0.0888	141.8353	-53.3479	-67.8600	4535
76.3561	81.0092	-0.0892	141.4586	-53.7920	-67.5081	4536
76.0771	81.1652	-0.0351	141.2490	-54.0719	-67.3535	4537
75.4511	81.6412	-0.0067	140.7266	-54.7008	-66.8805	4538
75.1551	81.8842	-0.0046	140.4721	-54.9982	-66.6390	4539
74.6581	82.3082	-0.0094	140.0379	-55.4977	-66.2174	4540
74.3900	82.6090	-0.0647	139.7726	-55.7675	-65.9179	4541
73.7020	83.1979	-0.0605	139.1703	-56.4590	-65.3322	4542
73.4870	83.3289	-0.0174	139.0054	-56.6748	-65.2023	4543

LIMB PROFILE POSITIONS

x	y	δr	P	x'	y'	Ser
73.3149	83.5839	-0.0950	138.8074	-56.8483	-64.9481	4544
72.9009	83.9259	-0.0751	138.4505	-57.2643	-64.6081	4545
72.0513	84.6561	-0.0449	137.7057	-58.1182	-63.8820	4546
71.1023	85.4971	-0.0123	136.8630	-59.0722	-63.0456	4547
70.7302	85.8571	-0.0163	136.5190	-59.4463	-62.6874	4548
70.4612	86.1221	-0.0207	136.2680	-59.7168	-62.4237	4549
69.9872	86.5101	0.0321	135.8624	-60.1931	-62.0380	4550
69.6232	86.8571	0.0407	135.5284	-60.5591	-61.6928	4551
69.4872	87.0281	0.0153	135.3843	-60.6961	-61.5224	4552
69.2772	87.2391	0.0147	135.1865	-60.9074	-61.3124	4553
69.0632	87.4641	0.0082	134.9802	-61.1227	-61.0885	4554
68.6531	87.8729	0.0143	134.5954	-61.5352	-60.6816	4555
68.3571	88.1919	0.0045	134.3063	-61.8330	-60.3640	4556
68.1681	88.4099	-0.0105	134.1148	-62.0233	-60.1469	4557
67.8030	88.8109	-0.0230	133.7545	-62.3906	-59.7477	4558
67.4760	89.1680	-0.0298	133.4326	-62.7197	-59.3921	4559
67.3650	89.2790	-0.0245	133.3283	-62.8314	-59.2816	4560
67.1560	89.4570	0.0073	133.1471	-63.0414	-59.1047	4561
66.7559	89.9040	-0.0013	132.7485	-63.4440	-58.6596	4562
66.4889	90.1990	-0.0024	132.4841	-63.7127	-58.3658	4563
66.2879	90.3160	0.0683	132.3369	-63.9144	-58.2498	4564
66.0919	90.5070	0.0864	132.1556	-64.1116	-58.0598	4565
65.8579	90.7480	0.1006	131.9328	-64.3470	-57.8199	4566
65.5939	91.0609	0.0910	131.6611	-64.6128	-57.5082	4567
65.3639	91.2849	0.1162	131.4486	-64.8441	-57.2853	4568
65.0969	91.5909	0.1169	131.1791	-65.1128	-56.9805	4569
64.8079	91.9439	0.1056	130.8764	-65.4039	-56.6289	4570
64.4489	92.3129	0.1399	130.5355	-65.7650	-56.2616	4571
64.2396	92.6140	0.1059	130.2933	-65.9760	-55.9616	4572
64.0856	92.7660	0.1265	130.1504	-66.1308	-55.8103	4573
64.0116	92.8889	0.1046	130.0562	-66.2055	-55.6876	4574
63.7556	93.1649	0.1258	129.8068	-66.4631	-55.4129	4575
63.6306	93.3219	0.1226	129.6736	-66.5890	-55.2565	4576
63.4476	93.5109	0.1446	129.4997	-66.7732	-55.0684	4577
63.2056	93.8479	0.1202	129.2249	-67.0171	-54.7325	4578
63.0446	93.9869	0.1584	129.0860	-67.1789	-54.5943	4579
62.8636	94.2289	0.1485	128.8857	-67.3613	-54.3531	4580
62.6746	94.4649	0.1496	128.6851	-67.5517	-54.1180	4581
62.6036	94.5649	0.1433	128.6038	-67.6232	-54.0184	4582
62.4798	94.7010	0.1562	128.4821	-67.7478	-53.8829	4583
62.4058	94.8500	0.1225	128.3740	-67.8226	-53.7342	4584
62.1658	95.1230	0.1439	128.1332	-68.0642	-53.4623	4585
61.8248	95.7450	0.0346	127.6680	-68.4087	-52.8419	4586
61.6268	96.0069	0.0336	127.4498	-68.6082	-52.5808	4587
61.2767	96.6289	-0.0601	126.9796	-68.9617	-51.9604	4588
60.9829	96.9433	-0.0111	126.6954	-69.2574	-51.6475	4589
60.7409	97.2973	-0.0253	126.4105	-69.5014	-51.2946	4590
60.6969	97.3553	-0.0239	126.3621	-69.5457	-51.2368	4591
60.6039	97.4383	0.0025	126.2812	-69.6392	-51.1542	4592
60.4527	97.6646	-0.0076	126.1004	-69.7917	-50.9286	4593
60.2137	97.9686	0.0093	125.8437	-70.0324	-50.6257	4594
60.0238	98.2916	-0.0231	125.5956	-70.2242	-50.3036	4595
59.6278	98.7136	0.0583	125.2149	-70.6226	-49.8835	4596
59.3058	99.2486	0.0184	124.8010	-70.9476	-49.3500	4597
58.8428	99.8796	0.0462	124.2814	-71.4142	-48.7211	4598
58.5648	100.3906	-0.0069	123.8965	-71.6951	-48.2114	4599
58.0078	101.1305	0.0527	123.2825	-72.2563	-47.4740	4600
57.8448	101.4295	0.0273	123.0569	-72.4210	-47.1757	4601
57.5048	102.0025	0.0058	122.6144	-72.7642	-46.6043	4602
57.3155	102.2766	0.0200	122.3933	-72.9551	-46.3310	4603
57.1164	102.7282	-0.0498	122.0686	-73.1567	-45.8804	4604
56.9044	103.1422	-0.0862	121.7602	-73.3710	-45.4673	4605
56.6314	103.6482	-0.1155	121.3782	-73.6468	-44.9625	4606
56.1384	104.4501	-0.1020	120.7519	-74.1444	-44.1628	4607
55.6985	105.2211	-0.1088	120.1613	-74.5887	-43.3938	4608
55.2635	105.9841	-0.1069	119.5769	-75.0279	-42.6328	4609
54.7945	106.8071	-0.0950	118.9467	-75.5016	-41.8119	4610
54.4315	107.4401	-0.0767	118.4615	-75.8681	-41.1806	4611
54.2974	107.5936	-0.0306	118.3295	-76.0031	-41.0277	4612
54.1044	107.9726	-0.0373	118.0467	-76.1982	-40.6495	4613
53.7265	108.6956	-0.0354	117.5044	-76.5802	-39.9282	4614
53.4095	109.1916	0.0219	117.1150	-76.9000	-39.4337	4615
53.3315	109.3556	0.0177	116.9944	-76.9789	-39.2700	4616

LIMB PROFILE POSITIONS

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x	y	δr	P	x'	y'	Ser
53.1125	109.7486	0.0380	116.6958	-77.2001	-38.8780	4617
52.9325	110.3556	-0.0683	116.2810	-77.3835	-38.2717	4618
52.6345	110.8426	-0.0118	115.9033	-77.6842	-37.7861	4619
52.5185	111.1776	-0.0512	115.6691	-77.8021	-37.4516	4620
52.4003	111.4127	-0.0446	115.4942	-77.9217	-37.2170	4621
52.3593	111.5677	-0.0734	115.3893	-77.9635	-37.0622	4622
52.0893	112.2447	-0.1128	114.9051	-78.2372	-36.3863	4623
52.0313	112.3527	-0.1049	114.8237	-78.2958	-36.2786	4624
51.9631	112.5086	-0.1074	114.7105	-78.3649	-36.1230	4625
51.8641	112.6626	-0.0806	114.5901	-78.4648	-35.9694	4626
51.7881	112.8915	-0.1052	114.4304	-78.5420	-35.7407	4627
51.5671	113.2415	-0.0456	114.1580	-78.7650	-35.3918	4628
51.5221	113.3595	-0.0520	114.0741	-78.8107	-35.2739	4629
51.4441	113.4885	-0.0325	113.9747	-78.8894	-35.1453	4630
51.4101	113.5935	-0.0435	113.9017	-78.9240	-35.0405	4631
51.2381	113.9045	-0.0096	113.6665	-79.0977	-34.7302	4632
51.1092	114.3905	-0.0825	113.3358	-79.2294	-34.2447	4633
50.8422	114.9395	-0.0493	112.9304	-79.4994	-33.6969	4634
50.8222	115.0935	-0.0900	112.8307	-79.5202	-33.5429	4635
50.7092	115.3995	-0.1022	112.6139	-79.6349	-33.2374	4636
50.6202	115.5185	-0.0649	112.5182	-79.7246	-33.1188	4637
50.4912	115.6565	0.0025	112.4009	-79.8544	-32.9815	4638
50.5022	115.8045	-0.0632	112.3124	-79.8442	-32.8334	4639
50.4692	116.0245	-0.1148	112.1685	-79.8784	-32.6134	4640
50.3532	116.2115	-0.0765	112.0243	-79.9954	-32.4270	4641
50.2272	116.4765	-0.0570	111.8296	-80.1229	-32.1625	4642
50.1942	116.6595	-0.0933	111.7083	-80.1569	-31.9796	4643
50.1423	116.7495	-0.0776	111.6400	-80.2094	-31.8899	4644
50.0653	116.8475	-0.0415	111.5607	-80.2870	-31.7922	4645
49.9023	117.4105	-0.0917	111.1723	-80.4531	-31.2299	4646
49.8533	117.4915	-0.0747	111.1104	-80.5025	-31.1491	4647
49.8012	117.7197	-0.1067	110.9561	-80.5559	-30.9211	4648
49.6602	117.9437	-0.0534	110.7837	-80.6981	-30.6977	4649
49.6492	118.0407	-0.0769	110.7207	-80.7096	-30.6007	4650
49.5972	118.1417	-0.0634	110.6457	-80.7622	-30.5000	4651
49.4312	118.4847	-0.0261	110.3935	-80.9301	-30.1577	4652
49.3962	118.6457	-0.0484	110.2850	-80.9660	-29.9968	4653
49.1882	119.1167	-0.0123	109.9436	-81.1766	-29.5267	4654
49.1492	119.3607	-0.0572	109.7821	-81.2169	-29.2829	4655
49.0532	119.4537	0.0024	109.7025	-81.3135	-29.1903	4656
49.0073	119.5707	0.0070	109.6191	-81.3601	-29.0735	4657
49.0073	119.6957	-0.0342	109.5406	-81.3608	-28.9485	4658
48.9393	119.8316	-0.0147	109.4404	-81.4295	-28.8128	4659
48.9253	119.9856	-0.0518	109.3406	-81.4444	-28.6588	4660
48.9153	120.1166	-0.0850	109.2561	-81.4551	-28.5278	4661
48.8733	120.3086	-0.1074	109.1262	-81.4981	-28.3359	4662
48.7333	120.6536	-0.0854	108.8790	-81.6400	-27.9915	4663
48.6033	121.1146	-0.1076	108.5607	-81.7726	-27.5311	4664
48.4813	121.2836	-0.0445	108.4285	-81.8955	-27.3626	4665
48.3373	121.6076	-0.0077	108.1941	-82.0413	-27.0393	4666
48.3023	121.7616	-0.0215	108.0896	-82.0772	-26.8854	4667
48.1033	122.4306	-0.0335	107.6257	-82.2798	-26.2172	4668
47.9453	122.9040	-0.0220	107.2941	-82.4405	-25.7444	4669
47.9393	123.0320	-0.0536	107.2115	-82.4472	-25.6164	4670
47.9113	123.1430	-0.0590	107.1355	-82.4758	-25.5055	4671
47.8923	123.2910	-0.0836	107.0376	-82.4956	-25.3576	4672
47.8023	123.4830	-0.0524	106.8981	-82.5867	-25.1660	4673
47.7943	123.6330	-0.0874	106.8010	-82.5955	-25.0160	4674
47.7333	123.7710	-0.0680	106.7014	-82.6573	-24.8782	4675
47.6923	123.9480	-0.0784	106.5808	-82.6992	-24.7014	4676
47.6313	124.0320	-0.0433	106.5158	-82.7607	-24.6177	4677
47.4763	124.6500	-0.0647	106.0924	-82.9191	-24.0002	4678
47.3223	125.0360	-0.0205	105.8177	-83.0752	-23.6149	4679
47.2033	125.1850	0.0546	105.7012	-83.1951	-23.4664	4680
47.1554	125.3109	0.0675	105.6121	-83.2438	-23.3407	4681
47.1514	125.4079	0.0458	105.5493	-83.2483	-23.2436	4682
47.0974	125.5109	0.0709	105.4739	-83.3029	-23.1409	4683
47.0794	125.6079	0.0630	105.4086	-83.3214	-23.0439	4684
47.0604	125.6969	0.0582	105.3482	-83.3409	-22.9550	4685
47.0094	125.9329	0.0465	105.1881	-83.3932	-22.7192	4686
46.9484	126.0799	0.0679	105.0833	-83.4550	-22.5725	4687
46.9064	126.3009	0.0524	104.9343	-83.4982	-22.3516	4688
46.8394	126.5329	0.0590	104.7740	-83.5665	-22.1199	4689

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x	y	δr	P	x'	y'	Ser
46.8124	126.7409	0.0334	104.6358	-83.5946	-21.9119	4690
46.7444	126.9359	0.0513	104.4991	-83.6637	-21.7172	4691
46.7084	127.1799	0.0267	104.3361	-83.7010	-21.4733	4692
46.6634	127.3589	0.0272	104.2135	-83.7470	-21.2945	4693
46.5953	127.5419	0.0495	104.0847	-83.8161	-21.1118	4694
46.5773	127.8399	-0.0035	103.8895	-83.8357	-20.8138	4695
46.5113	128.0049	0.0221	103.7727	-83.9026	-20.6490	4696
46.4463	128.2609	0.0261	103.5972	-83.9690	-20.3933	4697
46.4754	128.4249	-0.0397	103.4956	-83.9409	-20.2291	4698
46.4154	128.5219	-0.0033	103.4237	-84.0014	-20.1323	4699
46.3774	128.6359	0.0079	103.3442	-84.0401	-20.0185	4700
46.3994	128.7889	-0.0479	103.2484	-84.0189	-19.8653	4701
46.2964	129.1889	-0.0361	102.9739	-84.1241	-19.4657	4702
46.2434	129.3619	-0.0222	102.8540	-84.1780	-19.2929	4703
46.2284	129.4899	-0.0352	102.7688	-84.1937	-19.1650	4704
46.1924	129.6099	-0.0259	102.6857	-84.2304	-19.0451	4705
46.1484	129.8909	-0.0427	102.4970	-84.2759	-18.7642	4706
46.0074	130.3549	-0.0015	102.1758	-84.4194	-18.3008	4707
45.9684	130.6989	-0.0334	101.9467	-84.4603	-17.9569	4708
45.8374	130.9899	0.0368	101.7398	-84.5929	-17.6665	4709
45.7854	131.1599	0.0543	101.6223	-84.6459	-17.4967	4710
45.7764	131.3698	0.0221	101.4844	-84.6560	-17.2866	4711
45.7135	131.5698	0.0454	101.3460	-84.7201	-17.0869	4712
45.6855	131.7388	0.0407	101.2322	-84.7490	-16.9180	4713
45.6325	132.0778	0.0292	101.0045	-84.8039	-16.5791	4714
45.6515	132.2768	-0.0262	100.8768	-84.7859	-16.3800	4715
45.6124	132.5778	-0.0424	100.6754	-84.8267	-16.0791	4716
45.5814	132.7428	-0.0415	100.5638	-84.8586	-15.9142	4717
45.5284	132.9328	-0.0229	100.4332	-84.9126	-15.7244	4718
45.4824	133.3398	-0.0482	100.1615	-84.9608	-15.3175	4719
45.4144	133.5548	-0.0177	100.0129	-85.0300	-15.1027	4720
45.3804	133.7688	-0.0200	99.8689	-85.0652	-14.8888	4721
45.3274	134.0078	-0.0071	99.7065	-85.1195	-14.6500	4722
45.3054	134.4438	-0.0555	99.4181	-85.1438	-14.2140	4723
45.2005	135.2498	-0.0756	98.8778	-85.2532	-13.4083	4724
45.1155	136.0068	-0.1010	98.3713	-85.3423	-12.6514	4725
44.9965	136.5968	-0.0639	97.9718	-85.4645	-12.0618	4726
44.9465	136.7578	-0.0356	97.8613	-85.5154	-11.9010	4727
44.9025	137.1477	-0.0424	97.6004	-85.5615	-11.5111	4728
44.7245	137.9126	0.0408	97.0815	-85.7438	-10.7469	4729
44.6475	138.6376	0.0348	96.5973	-85.8247	-10.0220	4730
44.5445	139.2826	0.0690	96.1641	-85.9312	-9.3773	4731
44.5335	139.7896	0.0297	95.8284	-85.9450	-8.8702	4732
44.4795	140.0826	0.0558	95.6312	-86.0006	-8.5774	4733
44.4385	141.0196	0.0148	95.0089	-86.0466	-7.6402	4734
44.3756	142.0456	-0.0004	94.3260	-86.1152	-6.6142	4735
44.3065	143.2315	-0.0064	93.5366	-86.1907	-5.4282	4736
44.3375	143.6155	-0.0582	93.2829	-86.1617	-5.0439	4737
44.2925	143.8925	-0.0271	93.0974	-86.2082	-4.7670	4738
44.2615	144.4205	-0.0202	92.7459	-86.2421	-4.2390	4739
44.2666	144.5975	-0.0326	92.6285	-86.2380	-4.0619	4740
44.2176	144.7525	0.0103	92.5243	-86.2879	-3.9071	4741
44.2476	145.3855	-0.0419	92.1046	-86.2613	-3.2737	4742
44.1636	146.4635	0.0150	91.3870	-86.3511	-2.1958	4743
44.1986	147.0975	-0.0296	90.9661	-86.3195	-1.5614	4744
44.1695	147.5121	-0.0042	90.6904	-86.3509	-1.1468	4745
44.1755	148.0561	-0.0121	90.3289	-86.3478	-0.6026	4746
44.1376	148.2331	0.0260	90.2113	-86.3867	-0.4257	4747
44.1346	148.3461	0.0293	90.1363	-86.3904	-0.3127	4748
44.1566	148.5970	0.0084	89.9695	-86.3697	-0.0615	4749
44.1196	149.1050	0.0499	89.6323	-86.4094	0.4465	4750
44.1866	149.6260	-0.0094	89.2856	-86.3452	0.9680	4751
44.1666	149.9950	0.0180	89.0407	-86.3672	1.3371	4752
44.2076	150.6050	-0.0074	88.6349	-86.3295	1.9475	4753
44.2366	151.3400	-0.0118	88.1461	-86.3044	2.6829	4754
44.1947	151.7990	0.0487	87.8425	-86.3489	3.1418	4755
44.2457	152.2510	0.0184	87.5411	-86.3003	3.5943	4756
44.2626	152.5571	0.0169	87.3374	-86.2851	3.9006	4757
44.3036	153.3081	0.0181	86.8378	-86.2481	4.6521	4758
44.2826	154.0671	0.0884	86.3357	-86.2732	5.4112	4759
44.4046	154.5811	0.0038	85.9895	-86.1539	5.9260	4760
44.4176	154.8621	0.0125	85.8026	-86.1424	6.2072	4761
44.4536	155.0561	-0.0080	85.6723	-86.1074	6.4015	4762

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x	y	δr	P	x'	y'	Ser
44.4807	155.5541	0.0068	85.3410	-86.0831	6.8998	4763
44.5657	156.3720	-0.0031	84.7946	-86.0025	7.7185	4764
44.5657	156.7350	0.0325	84.5547	-86.0044	8.0816	4765
44.6047	156.8870	0.0091	84.4516	-85.9662	8.2339	4766
44.6487	157.2170	-0.0004	84.2305	-85.9240	8.5642	4767
44.7335	157.7432	-0.0274	83.8768	-85.8420	9.0910	4768
44.7135	157.9272	0.0133	83.7568	-85.8630	9.2750	4769
44.7825	158.2872	-0.0134	83.5139	-85.7959	9.6355	4770
44.8205	158.5342	-0.0215	83.3479	-85.7592	9.8827	4771
44.8645	158.7332	-0.0409	83.2130	-85.7163	10.0820	4772
44.8815	158.9172	-0.0348	83.0903	-85.7003	10.2662	4773
44.9265	159.2612	-0.0355	82.8597	-85.6571	10.6105	4774
44.9386	159.4772	-0.0192	82.7163	-85.6463	10.8267	4775
44.9916	159.9381	-0.0095	82.4080	-85.5957	11.2881	4776
45.0126	160.1041	-0.0074	82.2968	-85.5756	11.4543	4777
45.1356	160.8671	-0.0194	81.7833	-85.4567	12.2182	4778
45.1306	161.0671	0.0155	81.6524	-85.4627	12.4182	4779
45.1986	161.2631	-0.0220	81.5168	-85.3958	12.6146	4780
45.3046	161.7741	-0.0471	81.1703	-85.2925	13.1264	4781
45.3066	161.9871	-0.0150	81.0304	-85.2916	13.3395	4782
45.3716	162.2861	-0.0304	80.8273	-85.2282	13.6389	4783
45.4015	162.5407	-0.0176	80.6571	-85.1997	13.8937	4784
45.4475	162.7277	-0.0314	80.5295	-85.1547	14.0810	4785
45.4725	162.8887	-0.0285	80.4212	-85.1305	14.2422	4786
45.6546	163.7726	-0.0513	79.8214	-84.9532	15.1274	4787
45.7446	164.3446	-0.0338	79.4367	-84.8662	15.7001	4788
45.8406	164.7666	-0.0474	79.1492	-84.7725	16.1227	4789
45.8866	165.0926	-0.0288	78.9307	-84.7282	16.4491	4790
45.9536	165.4236	-0.0285	78.7062	-84.6630	16.7806	4791
46.0856	166.1706	-0.0043	78.2023	-84.5349	17.5285	4792
46.1666	166.4156	-0.0317	78.0318	-84.4552	17.7740	4793
46.3886	167.3486	-0.0450	77.3944	-84.2382	18.7085	4794
46.4146	167.7682	0.0246	77.1189	-84.2145	19.1284	4795
46.6236	168.4592	-0.0182	76.6401	-84.0092	19.8207	4796
46.7636	169.3052	0.0499	76.0722	-83.8737	20.6677	4797
46.8536	169.6952	0.0595	75.8066	-83.7857	21.0583	4798
47.1056	170.6761	0.0671	75.1341	-83.5389	22.0410	4799
47.3006	171.2211	0.0234	74.7508	-83.3468	22.5872	4800
47.3506	171.4281	0.0311	74.6095	-83.2979	22.7945	4801
47.4376	171.7321	0.0301	74.3995	-83.2125	23.0990	4802
47.5907	172.1831	0.0079	74.0835	-83.0618	23.5510	4803
47.6756	172.5388	0.0265	73.8409	-82.9788	23.9072	4804
47.7866	172.9338	0.0330	73.5684	-82.8699	24.3029	4805
47.9126	173.4428	0.0606	73.2207	-82.7466	24.8128	4806
48.2446	174.3757	0.0230	72.5635	-82.4195	25.7478	4807
48.3306	174.6077	0.0121	72.3993	-82.3347	25.9803	4808
48.6286	175.4177	-0.0181	71.8262	-82.0410	26.7921	4809
48.9067	176.5437	0.0830	71.0588	-81.7689	27.9200	4810
49.0257	176.8367	0.0678	70.8491	-81.6514	28.2137	4811
49.0897	176.9517	0.0458	70.7629	-81.5880	28.3291	4812
49.1907	177.2607	0.0546	70.5472	-81.4887	28.6387	4813
49.3046	177.5058	0.0307	70.3684	-81.3760	28.8845	4814
49.5966	178.3038	0.0325	69.8040	-81.0882	29.6842	4815
50.1116	179.6048	0.0171	68.8747	-80.5800	30.9884	4816
50.2236	179.8408	-0.0005	68.7015	-80.4693	31.2250	4817
50.5286	180.5457	-0.0211	68.1913	-80.1680	31.9318	4818
50.7386	181.1507	0.0145	67.7664	-79.9611	32.5381	4819
51.0977	182.0497	0.0330	67.1236	-79.6068	33.4393	4820
51.1777	182.3237	0.0678	66.9355	-79.5283	33.7138	4821
51.3276	182.6415	0.0569	66.7023	-79.3800	34.0325	4822
51.4386	182.9465	0.0780	66.4873	-79.2706	34.3381	4823
51.5486	183.1215	0.0482	66.3515	-79.1615	34.5138	4824
51.6016	183.3115	0.0772	66.2219	-79.1095	34.7041	4825
51.6686	183.3825	0.0450	66.1607	-79.0429	34.7755	4826
51.8106	183.6625	0.0305	65.9524	-78.9023	35.0563	4827
51.8336	183.7645	0.0517	65.8844	-78.8799	35.1585	4828
52.1756	184.4345	0.0206	65.3853	-78.5414	35.8305	4829
52.3856	184.8225	-0.0053	65.0927	-78.3334	36.2197	4830
52.5681	185.2124	-0.0032	64.8067	-78.1529	36.6107	4831
52.7721	185.6364	-0.0035	64.4941	-77.9511	37.0359	4832
53.0481	186.1254	-0.0373	64.1216	-77.6777	37.5265	4833
53.2941	186.6613	-0.0195	63.7298	-77.4345	38.0640	4834
53.5251	187.1733	0.0048	63.3569	-77.2061	38.5773	4835

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x	y	δr	P	x'	y'	Ser
53.8210	187.6981	-0.0190	62.9569	-76.9129	39.1038	4836
53.9600	188.0251	0.0085	62.7216	-76.7757	39.4316	4837
54.3610	188.8281	0.0296	62.1255	-76.3788	40.2370	4838
54.4600	188.9951	0.0214	61.9967	-76.2807	40.4046	4839
54.8690	189.7401	0.0188	61.4322	-75.8756	41.1519	4840
55.2881	190.5101	0.0281	60.8499	-75.4606	41.9244	4841
55.5531	190.9391	0.0098	60.5152	-75.1978	42.3549	4842
55.8311	191.4811	0.0400	60.1111	-74.9226	42.8985	4843
55.9961	191.8331	0.0753	59.8541	-74.7594	43.2515	4844
56.1411	192.0631	0.0673	59.6737	-74.6156	43.4823	4845

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