

! S11 = SDD11
! S12 = SDD12
! S13 = SDD13
! S14 = SDD14
! S15 = SDD15
! S16 = SDD16
! S17 = SDD17
! S18 = SDD18
! S19 = SDD21
! S1_10 = SDD22
! S1_11 = SDD23
! S1_12 = SDD24
! S1_13 = SDD25
! S1_14 = SDD26
! S1_15 = SDD27
! S1_16 = SDD28
! S21 = SDD31
! S22 = SDD32
! S23 = SDD33
! S24 = SDD34
! S25 = SDD35
! S26 = SDD36
! S27 = SDD37
! S28 = SDD38
! S29 = SDD41
! S2_10 = SDD42
! S2_11 = SDD43
! S2_12 = SDD44
! S2_13 = SDD45
! S2_14 = SDD46
! S2_15 = SDD47
! S2_16 = SDD48
! S31 = SDD51
! S32 = SDD52
! S33 = SDD53
! S34 = SDD54
! S35 = SDD55
! S36 = SDD56
! S37 = SDD57
! S38 = SDD58
! S39 = SDD61
! S3_10 = SDD62
! S3_11 = SDD63
! S3_12 = SDD64
! S3_13 = SDD65
! S3_14 = SDD66

! S3_15 = SDD67
! S3_16 = SDD68
! S41 = SDD71
! S42 = SDD72
! S43 = SDD73
! S44 = SDD74
! S45 = SDD75
! S46 = SDD76
! S47 = SDD77
! S48 = SDD78
! S49 = SDD81
! S4_10 = SDD82
! S4_11 = SDD83
! S4_12 = SDD84
! S4_13 = SDD85
! S4_14 = SDD86
! S4_15 = SDD87
! S4_16 = SDD88
! S51 = SDC11
! S52 = SDC12
! S53 = SDC13
! S54 = SDC14
! S55 = SDC15
! S56 = SDC16
! S57 = SDC17
! S58 = SDC18
! S59 = SDC21
! S5_10 = SDC22
! S5_11 = SDC23
! S5_12 = SDC24
! S5_13 = SDC25
! S5_14 = SDC26
! S5_15 = SDC27
! S5_16 = SDC28
! S61 = SDC31
! S62 = SDC32
! S63 = SDC33
! S64 = SDC34
! S65 = SDC35
! S66 = SDC36
! S67 = SDC37
! S68 = SDC38
! S69 = SDC41
! S6_10 = SDC42
! S6_11 = SDC43
! S6_12 = SDC44

! S6_13 = SDC45
! S6_14 = SDC46
! S6_15 = SDC47
! S6_16 = SDC48
! S71 = SDC51
! S72 = SDC52
! S73 = SDC53
! S74 = SDC54
! S75 = SDC55
! S76 = SDC56
! S77 = SDC57
! S78 = SDC58
! S79 = SDC61
! S7_10 = SDC62
! S7_11 = SDC63
! S7_12 = SDC64
! S7_13 = SDC65
! S7_14 = SDC66
! S7_15 = SDC67
! S7_16 = SDC68
! S81 = SDC71
! S82 = SDC72
! S83 = SDC73
! S84 = SDC74
! S85 = SDC75
! S86 = SDC76
! S87 = SDC77
! S88 = SDC78
! S89 = SDC81
! S8_10 = SDC82
! S8_11 = SDC83
! S8_12 = SDC84
! S8_13 = SDC85
! S8_14 = SDC86
! S8_15 = SDC87
! S8_16 = SDC88
! S91 = SCD11
! S92 = SCD12
! S93 = SCD13
! S94 = SCD14
! S95 = SCD15
! S96 = SCD16
! S97 = SCD17
! S98 = SCD18
! S99 = SCD21
! S9_10 = SCD22

! S9_11 = SCD23
! S9_12 = SCD24
! S9_13 = SCD25
! S9_14 = SCD26
! S9_15 = SCD27
! S9_16 = SCD28
! S10_1 = SCD31
! S10_2 = SCD32
! S10_3 = SCD33
! S10_4 = SCD34
! S10_5 = SCD35
! S10_6 = SCD36
! S10_7 = SCD37
! S10_8 = SCD38
! S10_9 = SCD41
! S10_10 = SCD42
! S10_11 = SCD43
! S10_12 = SCD44
! S10_13 = SCD45
! S10_14 = SCD46
! S10_15 = SCD47
! S10_16 = SCD48
! S11_1 = SCD51
! S11_2 = SCD52
! S11_3 = SCD53
! S11_4 = SCD54
! S11_5 = SCD55
! S11_6 = SCD56
! S11_7 = SCD57
! S11_8 = SCD58
! S11_9 = SCD61
! S11_10 = SCD62
! S11_11 = SCD63
! S11_12 = SCD64
! S11_13 = SCD65
! S11_14 = SCD66
! S11_15 = SCD67
! S11_16 = SCD68
! S12_1 = SCD71
! S12_2 = SCD72
! S12_3 = SCD73
! S12_4 = SCD74
! S12_5 = SCD75
! S12_6 = SCD76
! S12_7 = SCD77
! S12_8 = SCD78

! S12_9 = SCD81
! S12_10 = SCD82
! S12_11 = SCD83
! S12_12 = SCD84
! S12_13 = SCD85
! S12_14 = SCD86
! S12_15 = SCD87
! S12_16 = SCD88
! S13_1 = SCC11
! S13_2 = SCC12
! S13_3 = SCC13
! S13_4 = SCC14
! S13_5 = SCC15
! S13_6 = SCC16
! S13_7 = SCC17
! S13_8 = SCC18
! S13_9 = SCC21
! S13_10 = SCC22
! S13_11 = SCC23
! S13_12 = SCC24
! S13_13 = SCC25
! S13_14 = SCC26
! S13_15 = SCC27
! S13_16 = SCC28
! S14_1 = SCC31
! S14_2 = SCC32
! S14_3 = SCC33
! S14_4 = SCC34
! S14_5 = SCC35
! S14_6 = SCC36
! S14_7 = SCC37
! S14_8 = SCC38
! S14_9 = SCC41
! S14_10 = SCC42
! S14_11 = SCC43
! S14_12 = SCC44
! S14_13 = SCC45
! S14_14 = SCC46
! S14_15 = SCC47
! S14_16 = SCC48
! S15_1 = SCC51
! S15_2 = SCC52
! S15_3 = SCC53
! S15_4 = SCC54
! S15_5 = SCC55
! S15_6 = SCC56

```

! S15_7 = SCC57
! S15_8 = SCC58
! S15_9 = SCC61
! S15_10 = SCC62
! S15_11 = SCC63
! S15_12 = SCC64
! S15_13 = SCC65
! S15_14 = SCC66
! S15_15 = SCC67
! S15_16 = SCC68
! S16_1 = SCC71
! S16_2 = SCC72
! S16_3 = SCC73
! S16_4 = SCC74
! S16_5 = SCC75
! S16_6 = SCC76
! S16_7 = SCC77
! S16_8 = SCC78
! S16_9 = SCC81
! S16_10 = SCC82
! S16_11 = SCC83
! S16_12 = SCC84
! S16_13 = SCC85
! S16_14 = SCC86
! S16_15 = SCC87
! S16_16 = SCC88

```

For 1-port differential pairs, only 4-terms total are needed, SDDxx, SCDxx, SDCxx, SCCxx

```

! FILE: disp.s16p
!$DUT_CFG_DESC: Default 16-port configuration
!$NUMBER_PORTS: 16

```

NOTE: Differential Port Mapping needs a more universal scheme. Suggestion - [|1,2|,|3|,|4,5,6|] FOR 2-PORT, 1-PORT AND 3-PORT DIFFERENTIAL DEVICES.

Instrument Port to Device Port mapping [|1-1P2-2,9-16P5-10|,|3-3P4-4|,|5-5P6-6,7-7P8-8,12-14P13-11|]

```
!$DIFF_PORT_MAP: 1|2P|2|2P|0|UC|0|UC|3|2P|4|2P|0|UC|0|UC|5|2P|6|2P|0|UC|0|UC|7|2P|8|2P|0|UC|0|UC
```

```
!$PORT_MAP:
```

```

1|1|<<<<<<|2|2|>>>>>>|3|3|<<<<<<|4|4|>>>>>>|5|5|<<<<<<|6|6|>>>>>>|7|7|<<<<<<|8|8|>>>>>>|9|9|<<<<<<|10|10|>>>>>>|11|11|
|<<<<<<|12|12|>>>>>>|13|13|<<<<<<|14|14|>>>>>>|15|15|<<<<<<|16|16|>>>>>>

```

Agilent has use underscore to separate S-parameter port number designations greater than 1 digit.

```

# MHz S MA R 50.00
!
! FREQ          S11          S12          S13          S14
!              S15          S16          S17          S18
!              S19          S1_10       S1_11       S1_12

```

!	S1_13	S1_14	S1_15	S1_16
!	S21	S22	S23	S24
!	S25	S26	S27	S28
!	S29	S2_10	S2_11	S2_12
!	S2_13	S2_14	S2_15	S2_16
!	S31	S32	S33	S34
!	S35	S36	S37	S38
!	S39	S3_10	S3_11	S3_12
!	S3_13	S3_14	S3_15	S3_16
!	S41	S42	S43	S44
!	S45	S46	S47	S48
!	S49	S4_10	S4_11	S4_12
!	S4_13	S4_14	S4_15	S4_16
!	S51	S52	S53	S54
!	S55	S56	S57	S58
!	S59	S5_10	S5_11	S5_12
!	S5_13	S5_14	S5_15	S5_16
!	S61	S62	S63	S64
!	S65	S66	S67	S68
!	S69	S6_10	S6_11	S6_12
!	S6_13	S6_14	S6_15	S6_16
!	S71	S72	S73	S74
!	S75	S76	S77	S78
!	S79	S7_10	S7_11	S7_12
!	S7_13	S7_14	S7_15	S7_16
!	S81	S82	S83	S84
!	S85	S86	S87	S88
!	S89	S8_10	S8_11	S8_12
!	S8_13	S8_14	S8_15	S8_16
!	S91	S92	S93	S94
!	S95	S96	S97	S98
!	S99	S9_10	S9_11	S9_12
!	S9_13	S9_14	S9_15	S9_16
!	S10_1	S10_2	S10_3	S10_4
!	S10_5	S10_6	S10_7	S10_8
!	S10_9	S10_10	S10_11	S10_12
!	S10_13	S10_14	S10_15	S10_16
!	S11_1	S11_2	S11_3	S11_4
!	S11_5	S11_6	S11_7	S11_8
!	S11_9	S11_10	S11_11	S11_12
!	S11_13	S11_14	S11_15	S11_16
!	S12_1	S12_2	S12_3	S12_4
!	S12_5	S12_6	S12_7	S12_8
!	S12_9	S12_10	S12_11	S12_12
!	S12_13	S12_14	S12_15	S12_16
!	S13_1	S13_2	S13_3	S13_4

0.000355	48.566234	0.001107	55.479983	0.001674	-53.795994	0.000332	138.794407
0.000107	49.039482	0.000088	-119.926263	0.000304	-133.470700	0.000409	47.780683
0.001101	57.122752	0.000308	46.963413	0.001141	164.375873	0.002047	-131.991012
0.001517	-7.089639	0.003064	-129.237142	0.000419	53.294273	0.001044	61.136382
0.000317	57.367602	0.000244	-133.452238	0.000103	-117.614550	0.000092	28.923556
0.006470	-125.521720	0.003003	5.342494	0.001033	59.558844	0.000430	34.081598
0.000232	-144.207880	0.000365	49.798298	0.000134	38.545083	0.000074	-156.911421
0.000344	-137.336285	0.001106	-122.092395	0.001346	18.645398	0.001163	-110.181060
0.000400	42.827920	0.000987	58.807481	0.000425	46.495836	0.000327	-137.600177
0.001110	-124.695603	0.000329	-133.931822	0.002427	82.460064	0.002871	-153.615995
0.000973	57.402882	0.000410	45.516336	0.000308	-133.190042	0.000390	54.596929
0.000442	-130.059241	0.000369	42.041056	0.000400	-124.584124	0.001051	-123.272044
0.000817	82.314512	0.001096	-68.128487	0.000335	43.113631	0.001107	55.969258
0.000386	41.799578	0.000418	-140.788099	0.001056	-123.728323	0.000378	-134.991981
0.001998	-151.771958	0.002989	-129.017682	0.001078	54.510187	0.000316	53.293470
0.000021	44.464380	0.000038	-141.422451	0.000416	-135.027235	0.000317	41.353081
0.000460	-137.734588	0.000994	-125.365092	0.001793	-55.640001	0.000216	-179.945568
0.000055	-56.846691	0.000081	-8.762985	0.000335	40.591685	0.000447	-138.620823
0.000995	-121.307905	0.000494	-122.820190	0.001250	154.054235	0.001828	-132.029832
0.120324	35.094872	0.941914	-37.833623	0.001437	-98.239189	0.003656	65.155380
0.001925	15.326811	0.001761	-161.220442	0.001288	-135.384144	0.001456	44.486637
0.943396	-38.415704	0.131692	34.652517	0.003706	66.159246	0.001364	-96.989467
0.001745	-162.621498	0.001810	22.243715	0.001450	45.752608	0.001300	-135.728186
0.001419	-99.650468	0.003708	65.150704	0.124217	33.349544	0.946046	-38.370929
0.002994	-136.666798	0.005353	49.566009	0.002068	17.603257	0.001977	-164.134939
0.003670	63.985960	0.001365	-97.591603	0.947190	-38.193676	0.120647	32.791549
0.005313	48.733682	0.002958	-133.586442	0.001973	-163.614560	0.002068	19.090121
0.001949	13.647144	0.001742	-162.636788	0.002982	-136.640856	0.005287	48.728852
0.126080	32.619005	0.946364	-38.528500	0.002708	-132.672940	0.005031	49.321325
0.001795	-163.369656	0.001852	20.607299	0.005328	50.052356	0.002999	-133.069986
0.946298	-38.399802	0.122463	33.340690	0.005045	49.960155	0.002673	-137.530758
0.001324	-136.053397	0.001470	44.221424	0.002010	17.758501	0.001943	-164.648500
0.002652	-132.141885	0.005017	50.140560	0.125537	33.031402	0.946705	-38.400335
0.001503	45.404618	0.001313	-137.219845	0.001911	-164.415007	0.002057	18.660466
0.005008	49.147737	0.002644	-137.988102	0.946479	-38.333062	0.124222	33.016614

1010.0000000
143.328668

0.026521	-32.346364	0.615884	25.094837	0.063093	-75.379045	0.005150	
0.003059	179.793390	0.006965	91.943958	0.004615	9.352487	0.005575	100.079018
0.615664	25.048358	0.012490	-179.318750	0.005716	153.832423	0.062801	-80.595298
0.007384	90.894439	0.003217	177.975538	0.004626	-159.223222	0.005446	12.088724
0.063042	-75.302500	0.005710	153.627656	0.025387	-98.292030	0.618287	24.113279
0.063420	-75.461820	0.003703	150.767909	0.001595	153.924952	0.007998	83.277370
0.005195	141.407257	0.062417	-80.693917	0.618864	24.028463	0.017480	-90.151115
0.004217	170.147819	0.064060	-75.256426	0.007276	82.645984	0.000986	144.112976
0.003132	-179.809298	0.007369	91.894198	0.063822	-75.583229	0.004222	169.808874

0.036653	-84.589692	0.620754	24.120813	0.061489	-76.901568	0.005544	158.609278
0.006983	91.531932	0.003260	177.046400	0.003782	151.836388	0.063823	-75.340341
0.620317	24.125928	0.020993	-82.236012	0.005522	168.140318	0.061989	-71.244103
0.004476	10.190992	0.004645	-158.761320	0.001552	158.691217	0.007176	82.571825
0.061687	-76.933929	0.005643	168.321588	0.036760	-164.504317	0.614668	23.611567
0.005618	100.446120	0.005436	12.238050	0.007959	83.645780	0.000952	148.864236
0.005576	157.577565	0.061685	-71.214470	0.614714	23.645760	0.040675	2.856072
0.032495	47.036877	0.045596	110.884939	0.083802	-86.236108	0.003263	64.991598
0.003705	171.841722	0.013131	63.828317	0.012693	-171.035909	0.006025	-85.626582
0.034739	104.756727	0.026334	113.551288	0.004472	121.381522	0.079493	-91.698003
0.009949	42.646798	0.004050	-139.789329	0.008762	30.842875	0.013120	-173.578163
0.084444	93.887997	0.007517	-52.249932	0.015087	-60.719772	0.000452	-179.507714
0.082866	-86.524580	0.003717	141.293079	0.005977	-153.902344	0.011195	69.130156
0.005995	-33.526450	0.084983	91.121434	0.001761	-111.816979	0.007593	-45.591228
0.007528	163.641511	0.084301	-83.658755	0.012252	72.800365	0.005368	-145.748362
0.010423	41.723324	0.007309	-130.693827	0.078354	94.094572	0.006071	-94.510826
0.005546	-20.039423	0.002855	51.185382	0.084039	-87.574934	0.000631	-80.301685
0.008199	-112.631158	0.011309	62.065860	0.009354	-64.600375	0.076777	95.234159
0.002655	40.371202	0.008341	-156.551848	0.013153	130.248240	0.085491	-83.074695
0.011976	36.787946	0.010098	162.195196	0.005848	-68.091471	0.009869	-109.686239
0.082300	89.612615	0.005848	25.809167	0.056304	-70.304482	0.038191	108.451750
0.007076	149.171833	0.008892	12.895550	0.008599	-93.018320	0.000768	-172.801596
0.011342	-24.836309	0.078929	98.249870	0.043995	91.096919	0.047888	-114.703695
0.031015	47.174971	0.035033	102.244741	0.084012	93.780030	0.006066	-36.048638
0.010318	40.974484	0.008280	-111.973378	0.011987	36.112304	0.007061	150.187898
0.045086	112.303075	0.026191	112.822337	0.007401	-51.612730	0.085161	91.261857
0.006901	-130.001664	0.011388	61.917475	0.010109	162.614132	0.008840	12.703682
0.083732	-86.280999	0.004413	122.611714	0.015303	-61.820006	0.000715	-122.678410
0.077836	94.154329	0.009324	-64.137115	0.005705	-69.231088	0.008799	-93.342227
0.003637	66.050843	0.079161	-91.718900	0.001322	-125.842646	0.007653	-42.373485
0.006047	-94.172669	0.077074	95.364956	0.009905	-109.398450	0.000724	-165.744328
0.003711	176.526138	0.010108	41.340661	0.083281	-86.476721	0.007543	163.168963
0.004893	-23.809760	0.004040	30.304988	0.082080	89.559070	0.011352	-24.987728
0.013225	63.626492	0.004017	-138.736545	0.003662	139.604421	0.084054	-83.604104
0.001822	65.673518	0.007877	-157.751607	0.005999	26.633958	0.079255	98.137690
0.012823	-171.627719	0.008800	32.098408	0.006223	-155.379381	0.012161	72.976897
0.084450	-87.684766	0.013355	130.311214	0.056334	-70.664454	0.044120	90.257051
0.006128	-87.127494	0.013327	-173.305402	0.010952	70.233925	0.005446	-144.629850
0.000821	-80.856885	0.085123	-83.229121	0.038115	110.012492	0.047752	-114.251774
0.268112	14.385985	0.475909	10.611148	0.133532	78.781415	0.057599	-93.320874
0.027199	77.702775	0.055881	-99.496800	0.001134	-84.639545	0.000999	54.479071
0.475483	10.581790	0.187507	19.510405	0.064842	-90.231326	0.141977	77.993942
0.064377	-93.997961	0.023171	47.149026	0.006782	51.621725	0.019095	97.698853
0.133774	78.947425	0.064877	-90.212860	0.173410	9.417951	0.495697	12.384408
0.127202	71.975563	0.014441	-118.896870	0.027121	50.931036	0.060843	-95.314746
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0.027101	77.429892	0.064262	-93.795273	0.127673	71.954919	0.011627	-119.839588
0.187120	-4.725913	0.492194	13.669710	0.126618	72.640328	0.009146	-146.550396
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0.012082	178.584632	0.029073	-113.948633	0.054358	-63.943647	0.020783	2.782760

0.004413	45.584996	0.004043	-139.159852	0.054255	93.787105	0.017717	162.840857
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0.001472	-62.400616	0.158024	134.723338	0.010428	89.158851	0.246348	104.498299
0.002246	-128.873320	0.119077	143.269417	0.002606	-47.564022	0.094330	43.619552
0.081540	41.986250	0.003738	-136.994641	0.177592	123.869834	0.001928	-124.735367
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0.033360	156.629945	0.001691	64.671860	0.008940	99.577390	0.002558	-47.661996
0.218261	130.733626	0.004242	-49.620970	0.186870	122.741204	0.003356	105.370068
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0.003345	-28.972875	0.185148	145.866363	0.003263	105.169840	0.360580	151.403024

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57.174128

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0.000998	159.904727	0.009026	-178.990754	0.000477	-54.664631	0.003066	-133.787884
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0.006626	-177.062451	0.000979	161.084105	0.027611	-132.618749	0.007318	68.348609
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0.003954	-160.775066	0.000810	141.312408	0.039626	-172.504582	0.002777	-162.782048
0.655728	85.867848	0.018983	104.769874	0.035724	-178.545320	0.002448	-174.558765
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0.002067	-67.608145	0.042962	-177.971823	0.002481	91.407246	0.022139	-24.826495
0.000155	-129.386394	0.008549	-19.605153	0.000149	-2.332950	0.002094	-54.425070
0.064593	-179.213103	0.002302	-92.848172	0.056543	178.556557	0.000831	-53.525899
0.033872	-6.122763	0.003273	61.497003	0.005462	-4.183771	0.001347	-16.739036
0.003847	-98.156363	0.030400	175.819286	0.002615	-68.761937	0.012897	5.770723
0.005079	53.896539	0.039164	-4.117153	0.000580	164.724910	0.020537	-28.577440
0.005832	125.446501	0.000569	-115.930577	0.048801	174.080099	0.004854	-125.342562
0.031274	-58.521052	0.000737	120.910346	0.038916	-25.874974	0.003692	81.908847
0.001293	-177.773005	0.007857	-177.657557	0.001982	-102.350737	0.039775	163.646191
0.001419	46.729365	0.050569	-17.466888	0.002092	58.572476	0.052746	7.819233
0.000179	-165.873025	0.000352	-147.281840	0.009317	159.173870	0.000373	139.138260
0.029413	161.174245	0.002522	-112.613592	0.050935	17.092895	0.003778	63.996814
0.001906	83.187859	0.010808	152.195585	0.000468	-90.351567	0.005101	-118.168977
0.005363	-100.893572	0.023132	-144.989504	0.003005	6.946236	0.105539	50.094446
0.468368	113.139003	0.000249	-173.788206	0.091721	42.497919	0.000362	164.768601
0.045808	11.163733	0.000188	-97.521634	0.004960	23.534428	0.001220	172.692965
0.000176	104.986711	0.634495	65.583621	0.000486	-15.039240	0.079060	12.330862
0.000786	165.886138	0.016560	-34.552601	0.000526	-101.356213	0.011874	84.712049
0.092109	42.478724	0.000544	-30.208587	0.605003	75.212952	0.000178	35.667681
0.094963	15.666991	0.000647	-9.118969	0.031667	-29.664627	0.001278	-165.794346
0.000560	172.824558	0.079834	12.340700	0.000280	45.982315	0.553386	69.779191
0.001565	-34.551499	0.090504	5.130404	0.000502	-167.665513	0.025839	41.794142
0.045968	11.967699	0.000956	172.781346	0.094717	15.620760	0.001548	-31.983509
0.555426	64.495331	0.000943	-130.061548	0.086815	2.547146	0.000591	-10.739292
0.000228	-137.756712	0.016521	-33.909955	0.000388	-9.897713	0.090586	4.793548
0.001089	-136.994369	0.638912	78.173296	0.000658	-15.889854	0.078528	36.078920
0.004830	18.457641	0.000502	-75.007722	0.031531	-29.817734	0.000444	172.679214
0.086998	2.622774	0.000686	-3.403778	0.616064	74.562580	0.001258	151.260049
0.001098	172.550137	0.012025	84.888361	0.001219	-160.134096	0.026308	41.496627
0.000712	-25.589007	0.079323	35.858985	0.001189	157.515298	0.430441	118.723050

