

GROUPS OF QUASICOMPLANAR ASTEROIDS

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The groups of quasicomplanar asteroids are determined by taking orbital elements from the list of all numbered asteroids [1969] and of results obtained in the former work [1970]. The examinations are performed with the same criterion as in the former work.

In this way, by means of the criterion $\Delta\Omega < 1^\circ.000$ and $\Delta i < 1^\circ.000$ are given the found groups: 133 in Table I with most three asteroids (j , k and l) in a group, 11 in Table II with most four numbered asteroids (j , k , l and m) in a group and 3 groups in Table III with most five asteroids (j , k , l , m and n) in a group. A group with six or more asteroids is not found.

With the other chosen condition $\Delta\Omega < 0^\circ.500$ and $\Delta i < 0^\circ.500$ is found 11 groups in Table IV with most three asteroids in a group. A group with four and more numbered asteroids has not been found.

The examinations with the differences $\Delta\Omega < 0^\circ.100$ and $\Delta i < 0^\circ.100$ have shown that there was not a group with three and more numbered asteroids.

In all those groups the values for $\Delta\Omega$ and Δi are not quoted because they can be found easily from the former work.

The groups of quasicomplanar asteroids can be useful in further study of asteroids as in determination of proximities of their orbits.

The calculations are carried out at Computer Centre of Mathematical Institute in Belgrade.

TABLE I

Numbered Asteroids			Numbered Asteroids			Numbered Asteroids		
j	k	l	j	k	l	j	k	l
4	638	1391	39	1403	1533	83	340	1744
5	933	1251	39	1533	1732	84	227	1737
10	883	1530	43	211	901	93	109	843
21	222	767	43	901	1147	97	890	903
28	282	1414	55	280	1046	101	573	1002
35	327	1418	55	280	1512	101	573	1538
37	66	73	67	518	1201	101	672	1002
37	66	302	81	209	671	107	339	1605

TABLE I (continued)

Numbered Asteroids			Numbered Asteroids			Numbered Asteroids		
<i>j</i>	<i>k</i>	<i>l</i>	<i>j</i>	<i>k</i>	<i>l</i>	<i>j</i>	<i>k</i>	<i>l</i>
111	1034	1653	333	841	1481	699	726	989
111	1370	1653	337	356	613	710	851	1003
117	575	973	348	505	521	722	1448	1664
119	518	525	358	827	1335	723	794	799
146	971	1357	360	634	1334	742	1359	1364
152	698	906	360	653	1334	770	1472	1738
162	401	905	379	878	1335	778	1113	1206
163	1733	1736	380	913	1063	782	1083	1667
165	433	1284	383	452	1687	800	1338	1682
166	402	1211	388	1418	1640	810	1245	1742
171	825	1131	398	639	1064	810	1615	1742
189	525	1387	412	891	1592	813	941	1375
191	903	1597	414	559	1655	813	1071	1375
195	298	1016	438	947	1429	833	1416	1678
197	1096	1294	441	647	896	836	1037	1475
199	451	786	447	553	1185	836	1037	1632
209	645	671	447	553	1483	864	1078	1681
209	645	1126	447	1012	1483	929	1537	1726
219	1059	1230	452	534	1687	936	1218	1305
220	583	1224	463	597	859	948	1587	1710
231	659	1135	476	607	1456	955	1416	1678
231	1135	1381	490	1095	1413	975	1073	1162
235	481	858	492	981	1440	1057	1198	1420
240	1623	1633	494	718	1155	1059	1230	1286
251	1533	1732	518	1201	1718	1068	1285	1555
262	494	718	523	1057	1420	1073	1162	1253
282	558	1414	527	537	1015	1122	1480	1517
283	1234	1260	544	775	1485	1125	1336	1487
309	1608	1700	556	883	1530	1151	1167	1203
312	642	1179	566	1511	1667	1167	1203	1328
320	374	429	574	684	1279	1184	1488	1557
320	429	713	613	1418	1640	1258	1709	1714
321	641	1223	615	1183	1332	1268	1381	1454
321	1073	1162	622	744	824	1272	1433	1613
322	441	896	661	1182	1426	1450	1601	1602
324	400	1187	669	688	1410			
333	708	841	696	862	982			

TABLE II

Numbered Asteroids				Numbered Asteroids			
<i>j</i>	<i>k</i>	<i>l</i>	<i>m</i>	<i>j</i>	<i>k</i>	<i>l</i>	<i>m</i>
39	251	1533	1732	327	388	1418	1640
67	119	518	525	337	613	1418	1640
97	191	903	1597	355	1268	1381	1454
114	723	794	799	408	544	775	1485
119	189	525	1387	566	782	1083	1667
151	494	718	1155				

TABLE III

Numbered Asteroids				
<i>j</i>	<i>k</i>	<i>l</i>	<i>m</i>	<i>n</i>
67	119	189	525	1387
108	355	1268	1381	1454
327	337	613	1418	1640

TABLE IV

Numbered Asteroids		
<i>j</i>	<i>k</i>	<i>l</i>
84	227	1737
97	191	903
108	355	1268
108	1268	1381
114	794	799
322	441	896
327	1418	1640
333	841	1481
380	913	1063
742	1359	1364
810	1245	1742

References

1. *Институт теоретической астрономии АН СССР*. 1969, Эфемериды малых планет на 1970 год, Ленинград.
2. *Lazović, J.* 1970, Pairs of Quasicomplanar Asteroids, Publications of the Department of Astronomy, Faculty of Sciences, University of Beograd, № 2, 11, Beograd.