OBSERVATIONS OF NUCLEI OF BINARY INTERACTING GALAXIES

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39 pairs of galaxies have been observed (Ref. 1-4 and references herein). They are listed in Table 1. They can be classed in two categories. For 23 of them, one component has a compact stellar-like nucleus (Byurakan classes 4 and 5) and the other component has a faint nucleus of undefined form (Class 2) or no nucleus (Class 1); for one pair in this category, one component has a compact nucleus and the other belongs to Class 3. The components of the 16 other pairs have similar nuclei, compact or not. Out of the 39 pairs 6 have one component with a complex nucleus (Subclass 2s), the other component having a compact or non-compact nucleus.

Whether or not a pair belong to one or the other category does not depend on the environment or on the distance between the components, but it depends on the morphological types of the component galaxies. In the second category there are definitely more (50%) early-type components (E to SO) than in the first category (33%). It seems that the first category contains mainly the pairs in which the two components look like independent galaxies (90%). In 31% of the pairs from the second category one component looks like a satellite of the other one. The differences between the two samples may imply different origins.

References

1. Iskudarian, S.G.: 1968, Astrophysika, **4**, 385
2. Iskudarian, S.G.: 1978, Dokladi Akad. Nauk. Armenian SSR, **67**, No 2, 93
3. Iskudarian, S.G.: 1985, Contrib. Byurakan Obs. **57**, 39
4. Iskudarian, S.G.: 1989, Contrib. Byurakan Obs. **61**, 39 and 46

Table 1
Lists of pairs of galaxies

List 1

Nr.	NGC	Arp Nr	Byur. Class	Hubble type	log ΔV (km/s)	log separ. (pc)
1-1	23/26	-	4/2	SBa/Sb	1.23	5.21
1-2	2936/7	142	1/5	S/E	0.95	4.73
1-3	2992/3	245	2/4	Sbp/Sap	1.70	4.50
1-4	3065/6	-	4/2	S0/S	1.94	4.57
1-5	3212/5	181	2s/2	SB/S	2.53	4.85
1-6	3395/6	270	2/4	Sc/Sc	1.30	4.14
1-7	3690/IC694	299	4/1	S/S	1.15	4.01
1-8	3894/5	-	4/2	S0/SBa	1.67	4.50
1-9	4066/70	-	2s/4	E/E	2.21	4.22
1-10	4340/50	-	3/4	SB0/S0	2.50	4.56
1-11	4567/8	-	5/2	Sc/Sc	1.67	4.30
1-12	5216/8	104	4/2	E-S0:/SBb:	1.95	4.84
1-13	5257/8	240	2s/2	S/S	2.33	4.73
1-14	5289/90	-	4/2	Sa-b/Sb-c	1.83	5.28
1-15	5376/89	-	2/2s	Sa-b/S0	2.36	5.25
1-16	5394/5	84	5/2	(Sb)/Sb	2.12	4.59
1-17	5421A/B	111	2s/5	Sb/S0	2.26	4.20
1-18	5444/5	-	5/2	E/S0?	1.86	5.19
1-19	5929/30	90	4/2	E-S0/Sa	1.83	3.93
1-20	5953/4	91	5/2	S0/Sc	1.46	3.96
1-21	6306/7	-	2s/4	S/S0-a	1.92	4.44
1-22	7385/6	-	2/4	E/E-S0	2.56	5.40
1-23	7714/5	284	4/2	S/S	2.11	4.48

List 2

Nr.	NGC	Arp Nr	Byur. Class	Hubble type	log ΔV (km/s)	log separ. (pc)
2-1	1/16	-	4/4	Sb/S0	3.18	5.72
2-2	125/8	-	3/3	S0/S0	3.02	5.26
2-3	470/4	227	3/3	Sb-c/S0	1.57	4.88
2-4	2276/2300	114	4/4	Sc/E2	2.61	5.01
2-5	3226/7	94	4/5	E/Sb	1.88	4.21
2-6	4038/9	244	4/4	Sc/Sc	1.23	3.98
2-7	4061/5	-	4/4	E/E	2.98	4.66
2-8	4291/4319	-	4/4	E2/SBb	2.18	4.81
2-9	4382/94	-	3/3	S0/SBb	1.59	4.52
2-10	5194/5	85	4/4	Sc/Ep	1.92	3.63
2-11	5311/3	-	4/4	S0-a/S	2.19	5.16
2-12	5457/74	26	2/2	Sc/Sc	1.66	4.58
2-13	6621/2	81	2/2	SBbp/S0p	2.40	4.40
2-14	7742/3	-	5/4	S0:/SB0-a	2.26	5.68
2-15	7769/71	-	5/4	Sc/SBa	1.77	5.13
2-16	IC4453/54	220	4/4	(S0p)	(0)	3.49