

SPECTROSCOPIC STUDIES OF EMISSION LINE GALAXIES

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Abstract.

Spectroscopic Observations were made to study 42 emission line objects. The analysis of these long slit spectra shows that 15 out of 42 galaxies are blue compact galaxies (BCGs). 21 of them are starforming or HII galaxies and 3 were found to be normal galaxies.

1. Observation

We observed emission line objects during July 8-14, 1991 and April 3-8, 1992. The Mount Stromlo Observatory(MSO) 74-inch telescope equipped with the spectrograph and Photon Counting Array(PCA) was used during these observational runs. The spectral range covered 3,500-5,500Å and 4,800-7,000Å.

2. Data Reduction and Results

We used NOAO. IRAF 2.0 package for data reduction in the standard way. We listed identifications of these objects in TABLE 1. Among the 42 objects, 9 galaxies show the spectra of typical starburst galaxy. The radial velocity difference between ESO 513-IG11 and ESO 513-G10 is found to be 250km/sec, and it is conceivable that they consist of an interacting system as a faint patch between the two galaxies can be seen on ESO red plate. ESO 105-IG11 is thought to be an iE type blue compact galaxy which has two highly excited HII regions in the nucleus and faint outer envelope of an elliptical shape.

TABLE I
 Identifications of the Galaxies

object	identifications	object	identifications
ESO 122-IG02	starburst galaxy	ESO 270-IG22	starburst galaxy(?)
124-I12	starburst galaxy	CTS 1033	BCG
060-IG03	starburst galaxy	1034	HII galaxy
036-IG03	no emission lines	ESO 386-G09	Seyfert galaxy(?)
566-IG08	HII galaxy	513-IG11 a	BCG
435-G20	BCG	513-IG11 b	BCG
CTS 1010	HII galaxy	513-IG11 c	spiral galaxy
1011	BCG	042-IG04	BCG or HII galaxy
1012	BCG	CTS 1037	BCG
ESO 436-IG42	starburst or HII galaxy	ESO 102-G14	BCG, high excitation
264-IG13	interacting galaxy	140-G09 a	BCG or HII galaxy
CTS 1020	BCG	140-G09 b	BCG or HII galaxy
ESO 376-IG17	starburst galaxy	281-G07	HII region
502-IG11 a	BCG	338-IG04	BCG, interacting
502-IG11 b	BCG	338-IG08	starburst galaxy
UM 448	BCG or HII galaxy	105-IG11	BCG, high excitation
462	BCG	342-IG13	not BCG, weak [OII]
ESO 505-G12	BCG or HII galaxy	530-G42	no emission lines(?)
CTS 1027	BCG	289-IG08	starburst galaxy
ESO 322-IG32	starburst galaxy	290-G01	starburst galaxy
383-G20	not BCG, strong[NII]	293-G04	irregular galaxy