АСТРОФИЗИКА

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TWO GALAXIES WITH UV EXCESS

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The direct plates of the galaxies No.49 and No.50 with UV excess from the Kazarian list [1] were obtained in the primary focus of the 2.6 m telescope at Byurakan Observatory, on ORWO type blue plates with 25 minute exposure time (original scale is 1 mm = 20").

The galaxy No.50 is a homogeneous elliptical galaxy.

The galaxy No.49 = MCG 11-19-30 [2] is a spiral galaxy with a bright binary nucleus. Spiral arms of the galaxy, with condensations extend northwards and southwards from the central area. The diameter of the nuclear region is 7". There are a quasi-stellar condensation with 2" diameter on the northern arm at a distance of 8" from the center and 2 condensations on the southern arm at almost the same distance, 2".5 in diameter, which are less compact and less bright than the previous one [3].

The spectra of these galaxies were obtained in 1982 by means of 6 m telescope of SAO with SP-160 and image tube with 20 minutes exposure (60 A/mm dispersion, 3000 - 7000 AA). Later on the spectra of these galaxies were obtained in 1983 by means of 6 m telescope of SAO with SP-160 and bicameral image tube in three spectral regions (65 A/mm dispersion, 3000 - 7000 AA).

There are Hα; He I λλ 5876, 4926; H_β; He II λ 4686; Hγ; H_δ; Hε emission lines and [S II] λλ 6731, 6717, 4976 / 4967; [N II] λλ 6584, 6548, 5755; [O III] λλ 5007, 4959, 4363; [He III] λλ 3968, 3869; [O II] λ 3727 bright forbidden lines in the bright and narrow continuous spectrum of the galaxy No.49. Besides that the [N II], H_α, H_β and [O II] lines get out of borders of the continuous spectrum and reach the visible borders of the galaxy [4].

The redshift of the galaxy No. 49 is 0.0298.

The northern quasi-stellar condensation of the galaxy No.49 has rather bright emission lines in the very weak continuous spectrum. The diameter is equal to 1 kpc.

Probably it is a H II region in the galaxy [5].

The galaxy No. 49 is physically associated with the galaxy No. 50.

The spectra of the galaxy No. 50 mainly show absorption lines. The redshift of the galaxy is 0.0299.

The separation of galaxies No. 49 and No. 50 in projection is 150 kpc.

It is important to note that the profiles of emission lines in the spectrum of the galaxy No. 49 are different. The forbidden lines are narrower but the emission lines of Balmer series of the hydrogen are wider. The velocity of the Doppler width of the nuclear region referring to the forbidden lines is about 400 km/sec. and referring to the hydrogen lines is about 1200 km/sec.

The last time the spectra of the nucleus of the galaxy No.49 were obtained in 1990 by means of the 6 m telescope in SAO using 1000 canal TV scanner in 2 spectral regions. The spectrum of the eastern component of the nucleus is typical for nuclear spectra, while the spectrum of the western component resembles a spectrum of H II region.

The further research of these galaxies will help to understand better their nature.

Две галактики с ультрафиолетовым избытком. Приводятся результаты исследования двух физически связанных галактик с УФ избытком No. 49 и No. 50 из списка Казаряна. Двухядерная спиральная галактика No. 49 имеет спектр с линиями излучения высокого возбуждения, а эллиптическая галактика No. 50 - спектр с линиями поглощения.

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