

Kinematics in Hickson Compact Group 90

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Compact Groups are small systems of several galaxies with similar redshift in a compact configuration on the sky, and are also isolated from surrounding galaxies. In 1982 Hickson published the first catalog of this kind of groups, today known as Hickson Compact Groups (HCG). Due to high density and low velocity dispersions (typically few hundred km/s) Compact Groups are excellent laboratories to study galaxy-galaxy interactions and mass distribution including the dark matter content. HCG 90 is a core of three bright galaxies (NGC 7173, NGC 7176, NGC 7174) contained within a 6'x 6' area, which is surrounded by an extended loose group (deCarvalho et al. 1997) with diameter a of about 1.5 degrees. HCG 90 also has a fourth prominent galaxy (NGC 7172), it is a Seyfert 2 galaxy located 6' north of the three-galaxy core and is a strong X-ray source (White et al. 2003). The mean systemic velocity and velocity dispersion of the quartet were determined to be 2643 km/s and 100 km/s, respectively (Hickson et al. 1992, Plana et al. 1998). Based on observations obtained at Paranal (European Southern Observatory) in May 2002, we present kinematics in the core of HCG 90, which consists of two early-type galaxies (NGC7173, NGC7176) and one disturbed disk galaxy (NGC7174). Our data set consists of two longslit and one multi-object mask covering the core. The longslits have a width of arcsec and they connect NGC 7173 with NGC 7176 and NGC 7176 with NGC 7174. The velocity fields are determined by cross-correlation methods, all the spectra for this task were obtained with FORS2 at the VLT. The spectral range covered is between 4620 Å and 5940 Å with a spectral resolution of 2 Å / pixel and 50 km/s in velocity. Comparison with previous work on this group (Longo et al. 1994) is presented.

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