

Initiating the Sierra Nevada catalogue of star-forming polar-ring galaxies

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Abstract

We describe photometric observations with the 1.5m. telescope of the Sierra Nevada Observatory of a preliminary sample of 16 candidates to polar-ring galaxies (PRGs) selected from Whitmore et al. (1990) and Moiseev et al. (2011). The images were taken in broad filters (BVR) in order to characterize the host galaxies and the rings and in narrow filter H α at the corresponding redshifted wavelength to identify in the rings knots of on-going star-formation. These information allowed us to analyze different physical parameters (formation scenarios, morphological types, and stellar population). and to locate HII regions. The main aim of this work is the elaboration of a catalogue of PRGs with a star-forming ring. In a next future, the spatially-resolved spectroscopy study of these structures will help to understand their most probable mechanism of origin, formation and evolution by means of rotation curves, spectral fitting of stellar populations and chemical abundance analysis (e.g. Pérez-Montero et al. 2009)