[포IM-19] Faint Dwarf Galaxies along the Leo Large Scale HI Gas Ring

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The Leo ring in the M96 group is unique in its morphology and size among the intergalactic gas features found in nearby universe. Its ring-like structure of 200 kpc on diameter appears to be orbiting around the M105-NGC 3384 pair with 1.67 × 109 M⊙ of HI gas. While the origin of the ring - whether it is primordial or tidally stripped - is yet unclear, the optical and gas properties of dwarf galaxies associated with the gas ring help us to understand the formation process of this large scale intergalactic HI cloud. At the first step, we present the optical catalog of dwarf galaxy candidates in the Leo ring using deep optical images with MegaCam on the CFHT. Image convolution method is used in order to detect very faint dwarf galaxies. Comparing the ALFALFA HI data from the literature, we have identified that 4 dwarf candidates coexist with HI clumps. There are also 27 HI dwarfs with no optical counterpart and 12 optical dwarfs with no HI clump. In this work, we probe the optical and global gas properties of these dwarfs.

[포IM-20] Preliminary Result from Rapid Cadence Photometric Monitoring of HBC722

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We observed a low-mass pre-main sequence star, HBC722 (also known as LkHα 188 G4), with Camera for QUasars in EArly uNiverse (CQUEAN) attached to 2.1 Otto Struve telescope at McDonald Observatory, USA. HBC722 is a new FU orionis-type object in the direction of NGC7000/IC5070, which produced large amplitude optical outbursts (△ V=4.7 mag over one year) for a few months and reached the peak in 2010 September. We carried out the photometric observation in SDSS r,i, and z band in 2011 April, July and August to monitor the long term decrease of its brightness. We also made continuous observation in r-band for half night in July, and whole two nights in August to investigate short term variability which could be related to the rotation of the central star or the inner circumstellar disk. In this poster, we present a preliminary result of the photometric observation for HBC722. This work is supported by the National Research Foundation of Korea (NRF) grant funded by the Korean government (MEST), No. 2009-0063616.