[구GC-07] Probing the millimeter/radio polarization of active galactic nuclei

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I present an analysis of the linear polarization of six active galactic nuclei (AGN). We monitored our targets from 2007 to 2011 in the observatory-frame frequency range 80-253 GHz with the Plateau de Bure Interferometer (PdBI). We find average degrees of polarization in the range 2-7%; this indicates that the polarization signals are effectively averaged out by the emitter geometries. We see indication for the presence of strong shocks and/or variability of the emitter geometries. We attempt to derive rotation measures for all sources, leading to actual measurements for two targets which find the highest rotation measures reported to date for AGN.

[구GC-08] Mergers and radio-loud active galaxies: connecting the dots

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In the context of structure formation in a hierarchical Universe, the relevance of mergers to radio-loud active galaxies is still under debate. I employ two different observational approaches to investigate the merger history of active galaxies, using several different samples of radio-loud AGN. I will first show results from the investigation of a complete sample of flat-spectrum radio-AGN and their role in a merger-driven evolution of galaxies. In the second part of my talk I will focus on the investigation of the close environment of radio-loud active galaxies, using data from the new VISTA-VIDEO near-infrared survey. Strong evidence is found supporting a close connection between merger events and radio-loud AGN.