

Global Telescope Networks for Optical and Radio Monitoring of AGN

André B. Fletcher, Byung-Hee Min

Korea Astronomy Observatory

Active galactic nuclei (AGN) are distant, powerful sources of electromagnetic radiation from radio waves to gamma-rays. There is much evidence that they are powered by gravitational accretion of stars, dust, and gas, onto central massive black holes (MBHs) imprisoning anywhere from ~ 1 to $\sim 10,000$ million solar masses; such objects are now believed to naturally form in galactic centers during their normal dynamical evolution. The main theories for the physical processes believed to be ongoing in the central engines of AGN are briefly reviewed. A good way to learn about these complex phenomena is by systematic, uniform time monitoring of representative AGN samples. From the ground, this is best done using global networks of radio and optical telescopes. A partial list of actual and potential telescopes is presented, and various observational issues are addressed. AGN of the 'blazar' or 'BL Lac' variety (e.g. radio-loud blazar OJ 287) provide direct, unobscured views into the AGN central regions, so they should be high priority targets in any monitoring program. Global telescope network monitoring is an important tool that will help shed further light on the physical mechanisms driving the time varying energy and matter output from the central engines of AGN.

In Korea, KVN and the proposed NEOPAT-YSTAR global array may be important future contributors to global efforts to monitor AGN.