

REVERBERATION MAPPING OF AGNs: THE ROLES IN THE INTERFEROMETRY ERA

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Reverberation mapping (RM) is a classical but very powerful tool of probing the structure and kinematics of broad-line region (BLR) around the central supermassive black holes. The recent success of GRAVITY/VLTI observations of 3C 273 is opening an exciting avenue of understanding the central engines. In the talk, I suggested that joint analysis of GRAVITY and RM observations provides:

- 1) simultaneous measurements of SMBH mass and cosmological distances (BLR parallax) for cosmology;
- 2) determination of orbital parameters of close binaries of SMBHs for nanon-Hz gravitational waves.

I showed the results of BLR parallax distances of 3C 273 and Hubble constant of $H_0 = 71.5^{+11.9}_{-10.6} \text{ km s}^{-1} \text{ Mpc}^{-1}$ from the joint analysis. Accuracy of the measurements can be dramatically improved by expanding GRAVITY/RM sample.