IV CONFERENCE ON ACTIVE GALACTIC NUCLEI AND GRAVITATIONAL LENSING November 12-15, 2019, Banja Ždrelo, Serbia ABSTRACTS OF INVITED LECTURES AND PROGRAMME Edited by Saša Simić, Luka Č. Popović and Milan S. Dimitrijević Faculty of Sciences, Department of Physics, Kragujevac 2019

REVERBERATION MAPPING OF AGNs: THE ROLES IN THE INTERFEROMETRY ERA

Jian-Min Wang

Institute of High Energy Physics, Chinese Academy of Sciences, Beijing 100049. China

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 = $71.5^{+11.9}_{-10.6}$ km s⁻¹ Mpc⁻¹ from the joint analysis. Accuracy of the measurements can be dramatically improved by expanding GRAVITY/RM sample.