

*Invited Lecture*

## **LINE PROFILES MASS MEASUREMENTS AND ACCRETION DISKS IN HIGH REDSHIFT AGN**

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The fundamental problems in understanding active galactic nuclei (AGN) are related to the nature of their power house, the mass of their central black hole (BH), the spin of the BH, and the mass accretion rate. Most of these parameters can be inferred from spectroscopic observations albeit with large uncertainties. In this talk, I will present an unusual X-shooter/VLT spectroscopic sample of radio-quiet type-I AGN at  $z \sim 1.55$  that can be used to derive BH mass from the study of the profiles of four different emission lines:  $H\alpha$ ,  $H\beta$ ,  $MgII\lambda 2798$  and  $CIV\lambda 1549$ . Moreover, the extremely wide wavelength range covered by the observations enables a first of its kind fitting of the spectral energy distribution (SED). This can be used to perform a meaningful test of the suggestion that most AGN are powered by thin or slim accretion disks and to measure the BH spin. The talk will attempt to combine all these new results into a coherent model of the central accretion disk, the surrounding broad emission line gas, and the dusty torus.