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THE EMISSION LINE REGION IN THE ACTIVE GALACTIC NUCLEUS (AGN) III Zw 2

E. BON

Astronomical Observatory, Volgina 7, 11160 Belgrade – 74, Serbia and Montenegro
E–mail ebon@aob.bg.ac.yu

Abstract. In order to investigate the structure of emission line region of the Active Galactic Nucleus (AGN) the shapes of Lyα, Hβ, Hα and Mg IIλ2798 line profiles have been studied. The shapes of these broad emission lines show evidence of a multicomponent origin and also features which could be identified as the peaks due to a rotating disk. We have proposed a two-component Broad Line Region (BLR) model consisting of an inner Keplerian relativistic disk and an outer structure surrounding the disk. The results of the fitting of the four Broad Emission Lines (BELs) here considered, are highly consistent in both the inner and outer component parameters. Adopting a mass of $\sim 2 \cdot 10^8 M_\odot$ for the central object we found that the outer radius of the disk is approximately equal for the four considered lines (~ 0.01 pc). However, the inner radius of the disk is not the same: 0.0018 pc for Lyα, 0.0027 pc for Mg II, and 0.0038 pc for the Balmer lines. This as well as the relatively broad component present in the blue wings of the narrow [OIII] lines indicate stratification in the emission-line region, not only in the BLR, but also in Narrow Line Region (NLR).