

**LINE PROFILE VARIABILITY DUE TO PERTURBATIONS  
IN AGN ACCRETION DISK EMISSIVITY**

**Marko Stalevski<sup>1</sup>, Predrag Jovanović<sup>1</sup>, Luka Č. Popović<sup>1</sup>  
and Alla I. Shapovalova<sup>2</sup>**

<sup>1</sup>*Astronomical Observatory, Volgina 7, 11060 Belgrade 38, Serbia*

*E-mail: mstalevski@aob.bg.ac.yu*

<sup>2</sup>*Special Astrophysical Observatory of the Russian AS,  
Nizhnij Arkhyz, Karachaevo-Cherkesia 369167, Russia*

In this paper we analyzed the observed variability of the broad double-peaked spectral lines of some Active Galactic Nuclei (AGN). We assumed that such lines originate from outer part of accretion disk around massive black hole of AGN, and that line variability is caused by perturbations in disk emissivity. The disk emissivity was studied using numerical simulations based on relativistic ray-tracing method, assuming a modification of power-law emissivity which allows us to introduce the perturbations in form of the bright spots. Our results show that this model of disk emissivity perturbations can satisfactorily reproduce the observed H $\beta$  line variability in 3C 390.3 between 1995 and 1999.