

PECULIAR PROPERTIES OF Fe II LINES IN SPECTRA OF ACTIVE GALACTIC NUCLEI

Jelena Kovačević-Dojčinović¹, Ivan Dojčinović², and Luka
Č. Popović^{1,3}

¹*Astronomical Observatory, Volgina 7, 11060 Belgrade, Serbia;*

²*Faculty of Physics, University of Belgrade,
Studentski Trg 12, 11000 Belgrade, Serbia*

³*Department of Astronomy, Faculty of Mathematics,
University of Belgrade, Studentski Trg 16, 11000 Belgrade, Serbia*

E-mail: jkovacevic@aob.bg.ac.rs

One of the characteristics of Active Galactic Nuclei (AGN) Type 1 spectra are numerous Fe II lines, which can be very strong in some objects. The mechanisms of their excitation, atomic processes included in their emission, as well as their correlations with the other spectral parameters and the site of their emission in AGN structure, are open questions and represent the real challenge for research. Here we review the peculiar properties of the iron lines in AGN spectra and present two-component modeling of the iron lines. We assume that Fe II lines arise from the very broad line region (VBLR), the part of the BLR closer to the supermassive black hole and from the intermediate line region (ILR), which is part of the BLR farther away from the black hole. Using the set of synthetic spectra, we have shown that Fe II VBLR components could form the Fe II pseudocontinuum in the case of very strong and broad Fe II emission, and consequently affect

the measured spectral parameters in the optical spectra. We discuss possible physical explanations of the so-called Quasar Main Sequence, as implied by the results of the Fe II two-component modeling.