

**USING THE GR MODEL TO STUDY THE AGN SPECTRA**

EVANGELIA LYRATZI<sup>1,2</sup>, EMMANUEL DANEZIS<sup>1</sup>, LUKA Č. POPOVIĆ<sup>3</sup>,  
ANTONIOS ANTONIOU<sup>1</sup>, MILAN S. DIMITRIJEVIĆ<sup>3,4</sup>  
and DIMITRIOS STATHOPOULOS<sup>1</sup>

<sup>1</sup>*University of Athens, Faculty of Physics, Department of Astrophysics,  
Astronomy and Mechanics,*

*Panepistimioupoli, Zographou 157 84, Athens, Greece*

*E-mail: edanezis,elyratzi,ananton@phys.uoa.gr*

<sup>2</sup>*Eugenides Foundation, Syngrou 387, 175 64, P. Faliro, Greece*

<sup>3</sup>*Astronomical Observatory of Belgrade, Volgina 7, 11060, Belgrade, Serbia*

*E-mail: lpopovic,mdimitrijevic@aob.bg.ac.rs*

<sup>4</sup>*Observatoire de Paris, LERMA CNRS UMR 8112,  
5 Place Jules Janssen, 92190, Meudon, France*

**Abstract.** According to the GR model, the Broad Absorption Line Region (BALR), lie in a disk around the quasar and is composed of a number of successive independent absorbing density regions that have different apparent rotational and radial velocities. By fitting the observed absorption lines with GR model, we can calculate some basic kinematical parameters of BALR, such as the random, rotational and radial velocities. Here, fitting with the GR model the C IV resonance lines in the spectra of several HiBAL QSOs, taken with HST, we calculate the values of the kinematical parameters of the respective density regions. Moreover, using the obtained parameters from the best fit, we discuss the general characteristics of the regions which create the studied C IV lines.