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Progress Report

THE LINE PROFILES IN AGNs TYPE 1.8-2: UNRAVELING THE COMPLEX KINEMATICAL PROPERTIES

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We used the sample of 577 spectra of Active Galactic Nuclei (AGNs) type 1.8-2, obtained from SDSS to analyze the kinematical properties of the narrow emission lines. We fit these lines ([O III], Hβ, Hα, [N II] and [S II]) with single and double (core+wing components) Gaussian models and investigate the influence of the gravitational and non-gravitational kinematics to the line components of different lines. We focused to the wing components of the double Gaussian lines since they represent the pure non-gravitational contribution. Using the subsample in which Hα and [N II] lines are unblended (can be fitted independently), we found the empirical relationships between their wing components which we used to establish the procedure of decomposition of the blended Hα+[N II] wavelength band, which is present in 40% of spectra in our sample. We found the strong correlations between the shifts of the wing components for all analyzed lines, and between their widths (with exception of the Hβ) which implies the systemic influence of the outflow kinematics to the line profiles in spectra. We found that in 2.5% of the sample, the [O III] lines have complex shapes, which cannot be fitted with double Gaussian model. We discuss these examples separately in context of the outflow biconical model.