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INFLUENCE OF THE OUTFLOW EMISSION TO THE LINE PROFILES IN SPECTRA OF ACTIVE GALACTIC NUCLEI TYPE 2

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Here we investigated the influence of the outflow gas emission on the narrow emission line profiles in a large sample of Active Galactic Nuclei Type 2 spectra, taken from the SDSS database. We analyzed several optical emission lines (H β , [O III], H α , [N II], and [S II]) that were fitted with a single Gaussian model, or a double Gaussian model (core + wing component) in the case of complex line shapes. The widths of the obtained components were compared with stellar velocity dispersion, in order to detect the difference and, in that way, follow the non-virial contribution in their profiles, which arise in the gas outflow. We found that the influence of the outflow contribution to the profiles of the analyzed lines is not the same, and it differs for different lines within the same spectrum. The strongest influence of the outflow contribution is in the [O III] lines, weaker in the H α and [N II] lines, and weakest in the [S II] lines. In the case of the forbidden lines, the influence of an outflow contribution decreases as the critical density and ionization potential of the ions decrease, which may imply that these lines dominantly arise in different parts of an outflowing region.