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THE COMAPRISON OF Hα AND Hβ EMISSION LINES AS INDICATORS OF SUPERMASSIVE BLACK HOLE MASS IN THE SAMPLE OF AGNs TYPE 1

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Active galactic nuclei (AGN) is a compact region in an active galaxy, with significant luminosity excess attributed to gas accretion into the AGN's central supermassive black hole (SMBH). In this work we aimed to compare the broad Hα and Hβ emission lines as indicators of SMBH mass. For this purpose, we used the sample of Type 1 AGN taken from the Sloan Digital Sky Survey, for which stellar velocity dispersions are available in literature. We compared SMBH masses estimated using the kinematical parameters of each of these two broad emission lines with the stellar velocity dispersions. We found that correlations between these parameters increase for spectra with certain spectral properties, indicating that for these spectra Hα and Hβ are more reliable as SMBH mass indicators.