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New results of the polarimetry of AGN with equatorial scattering

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The study of the features of equatorial scattering in polarized light makes it possible to consider the geometry and kinematics of the matter near the SMBH in the center of the type 1 AGN in detail. However, despite its powerful potential, AGN spectropolarimetry is a complex observational task implemented on only a few large telescopes in the world. Therefore, today the task of both collecting more statistical data of the studied objects and searching for unique sources is relevant. In this report, I will present a number of the most interesting observational results obtained in the last few years on BTA/SCORPIO-2. Among them are the results of spectropolarimetry in UV lines of the distant quasar SBSS 1419+538 (z = 1.86) and the gravlensed quasar Q0957+561 (z = 1.41), as well as the results of the detection of new quasars with signs of equatorial scattering. Also, the first results of polarimetrimetric monitoring of Sy1 in broad lines, which is carried out on the small telescopes of SAO, Asiago and Rozhen, are presented.

Due to this, new estimates of the size of the equatorial scattering region are obtained, which turn out to be on average 2 times smaller than the IR estimates obtained earlier.