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EXPLORATION OF THE BROAD LINE REGION GAS DYNAMICS OF SEYFERT GALAXIES USING SPECTRO-POLARIMETRIC OBSERVATIONS

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We present results of the spectro-polarimetric investigation of six Seyfert galaxies - 3C273, NGC4051, Akn 120, NGC4151, NGC3227 and Mkn6. Galaxies have been observed wit the 6-m telescope using the instrument SCORPIO-2. Using a simple model of the equatorial scattering (Smith et al, MNRAS) and estimated the inner size of the dusty torus we explore the dynamics of the gas in the BLR of these galaxies. We found that the radial velocity in the line profile is depending from the disk radius as log(V (R))=a+b*log(R), where b is approximately equal -0.5 with error 0.05-0.1, indicating the Keplerian motion of emitting clouds in the broad line region (BLR). Using estimates for the inner radius of the dusty torus we estimate that the outer radius of the Keplerian disc (or BLR) has an order of 0.1-0.2 pc. Moreover, we estimated masses of black holes which are in a good agreement with ones estimated by reverberation method.