

Invited lecture

LINE PROFILE VARIABILITY IN AGN

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I will review some key aspects of the central line emitting region in AGN. Continuum and emission line variability provides a powerful tool to map the structure of the central broad line region (BLR). Observed delays of the emission lines of the order of days to weeks probe regions only microarcseconds away from the nucleus. I will discuss different methods to derive the central mass of the supermassive black holes in AGN. Finally, the 2D-reverberation mapping method applied to variable line profiles gives us information on geometry and velocity in the innermost BLR.

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THE JET-CLOUDS INTERACTION IN AGN: A PANORAMIC SPECTROSCOPY VIEW

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The powerful of 3D (panoramic) spectroscopy is demonstrated on the examples of active galactic nuclei observations. We have study a jet-clouds interaction in the case of object with different size of radio jets: from several hundreds parsecs to tens kiloparsecs.

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STUDIES OF LOCAL MILKY-WAY KINEMATICS VIA LINE-OF-SIGHT VELOCITIES

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A review of the studies concerning the local Milky-Way kinematics which have used line-of-sight velocities of stars is given. This review comprises historical aspects, methodics and perspectives as well.