Invited lecture

STARK PARAMETERS REGULARITIES OF MULTIPLY CHARGED ION SPECTRAL LINES ORIGINATING FROM THE SAME TRANSITION ARRAY

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Stark widths and shift regularities of the multiply charged ions spectral lines originating from the same transition array have been studied. The emphases are on the Stark widths and shift dependences on the upper level ionization potential and the rest core charge of the emitters. Stark parameters temperature dependences have been deduced from the found regularities. The found regularities can be used for Stark widths and shifts predictions for the lines of multiply ionized spectral lines where not existed so far. The accuracy of the obtained width and shift values are of the same order as the accuracies of the used data in the procedure of finding regularities

Invited lecture

3D SPECTROSCOPY OF NUCLEAR AND EXTRANUCLEAR REGIONS OF NEARBY AGN

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3D spectroscopy, is a modern method of investigation in observational astronomy, since it provides simultaneously a spectrum, under the same atmospheric and instrumental conditions, for each spatial element of a two-dimensional field of view. This gives a clear advantage with respect to classical sequential spectroscopic techniques, as long slit scans or Fabry-Perot interferometry, when studying extended sources, like galactic and extragalactic gaseous nebulae or nearby and distant galaxies.

Therefore 3D spectroscopy is intrisecally suited for a large number of observing programs and different kinds of targets.

Among them, it is doubtless of great importance the study of Active Galactic Nuclei (AGN), and in particular of the nuclear and circumnuclear regions of nearby Seyfert