

Poster

EXPLORING IRREGULAR BIVARIATE AGN TIME SERIES

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Variations in continuum and line light curves of AGN may be correlated with time lags associated with some processes in the broad line region. However time delay calculations are technically challenged in three ways: (i) datasets are heterogeneously sampled in time and (ii) space (observatories), and (iii) time is a variable that needs to be reconstructed which introduces additional uncertainties. Practical aspects of application of Gaussian-kernel based estimators of statistical dependencies of such time series is demonstrated on several AGNs datasets.

Progress Report

DIFFERENCES BETWEEN THE UV AND OPTICAL Fe II EMISSION LINES IN THE SPECTRA OF THE AGNs TYPE 1

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We investigate the spectral properties of the Fe II emission lines in the UV ($\lambda\lambda$ 2650-3050 Å) and optical ($\lambda\lambda$ 4000-5500 Å) range in a sample of 293 type 1 AGNs from SDSS database (DR7). Different correlations between the UV and optical Fe II emission lines are explored, as well as between them and other emission lines from the considered spectral ranges. We examine the kinematical properties of the UV and optical Fe II lines and found that their emission regions are probably located close to each other in the AGN structure. The large average systemic redshift found for the UV Fe II lines could imply that UV emission region is asymmetric. We also point out the several correlations which are specific for the optical Fe II lines, and which are not seen for the UV Fe II lines. We try to explain them with possible influence of the starburst activity in one phase of the AGN evolution.