TIME SERIES ANALYSIS OF ACTIVE GALACTIC NUCLEI ARP102B

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We have undertaken a ground-based monitoring campaign of active galactic nuclei Arp 102B with double-peaked broad line profiles, in order to improve the measurement of the size of its broad emission-line region and estimate the black hole mass. Here we give a report on application of two relatively new time series analysis techniques (z-transformed discrete correlation function (ZDCF) and damped random walk model) in handling our task.

PROBABILITY OF FINDING CLOSE BINARY MASSIVE BLACK HOLES WITH ORBITAL PERIOD LESS THAN 15.6 YEARS

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Here we present the analysis of properties of binary massive black holes (BMBH) with mass ratio q=0.28, i.e. calculations of observable period range, mass dependence of characteristic semi-major axes, orbital-decay timescale evolution of these objects with a semi-major axis from 100pc to 10^{-4}pc, and estimation of the total fraction of close BMHB with orbital period less than 15.6 years, in the frame of possible detection with the GAIA mission.