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 (ztransformed 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.