

Poster

LINE SHAPES EMITTED FROM SPIRAL STRUCTURES AROUND SYMMETRIC ORBITS OF SUPERMASSIVE BINARY BLACK HOLES

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It is expected that major mergers are common in the Universe. This should result as sub-parsec binary black hole systems (BBHS) in the merger cores, within Hubble time. We model the Balmer line emission of inner spiral structures formed by orbiting motion of symmetric BBHS orbits. We assume that the line emission is produced by photo ionisation of the gas in spiral structures by the each black hole's mini accretion disk radiation. We consider cases with different masses and inclinations for circular orbits.

Progress Report

VLF REMOTE SENSING OF THE LOWER IONOSPHERIC DISTURBANCES CAUSED BY INTENSE SOLAR RADIATION

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The sensitivity of VLF radio propagation to the lower ionosphere makes it an ideal probe for remotely sensing the ambient state and localized perturbations of the ionosphere. AWESOME detection system were put in operation in the Institute of Physics, Belgrade, Serbia, in June 2008 and continuously monitor VLF signal during the period of almost seven years (2008 - 2015). Statistical results show that in large number of examined events, the amplitude perturbation excess of VLF signal is in correlation with intensity of satellite measured stellar (X-ray, UV and etc.) flux. We show and conclude that the VLF technique is reliable detection tool of high-energy astrophysical phenomena.