

VHE gamma-ray observations of binary systems with the MAGIC telescopes.

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There are several types of Galactic sources that can potentially accelerate charged particles up to GeV and TeV energies. These accelerated particles can produce Very High Energy (VHE) gamma-ray emission through different processes like inverse Compton scattering of ambient photon fields by accelerated electrons.

We present here the results of our observations on X-ray and gamma-ray binaries and the subclass of binary systems known as novae, performed with the MAGIC telescopes. The focus lies on four sources: LS I +61 303, MWC 656, Cygnus X-1 and AE Aquarii. We observed the binary system LS I +61 303 in a long-term monitoring campaign for 8 years. We will show the newest results on our search for superorbital variability also in context with a 4-yr contemporaneous optical observations. MWC 656 is a unique detected high-mass X-ray binary system, since it is up to now the only one known composed of a Be star and a black hole. Cygnus X-1 is one of the brightest X-ray sources and best studied microquasars along a broad range of wavelengths. We will present the results of our search of steady and variable emission. Results of our multiwavelength observation campaign regarding the cataclysmic variable AE Aquarii and observations of several novae events will be discussed. Furthermore, we will present the observations of the only super-critical accretion system known in our galaxy: SS433.

Summary

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