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Highlights of Galactic observations 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 ($E > 100$ GeV) gamma-ray emission through different non-thermal processes such as inverse Compton scattering of ambient photon fields by accelerated electrons or pion decay after proton-proton collisions. Here we present highlight results of observations with the MAGIC telescopes on Galactic sources: millisecond pulsars, supernova remnants (SNRs), pulsar wind nebulae (PWNe), novae and binary systems. In particular, we present the promising PeVatron candidate SNR G106.3+2.7 containing an energetic PWN named Boomerang. Also, in the ongoing search for new source classes we looked for very-high-energy emission from the millisecond pulsar PSR J0218+4232 that has long been considered as one of the best candidates. Furthermore, we present the observations during an exceptionally bright X-ray outburst from the low mass X-ray binary MAXI J1820+070.

Finally, we highlight the MAGIC results of the first nova detected at very high energies: RS Ophiuchi, a recurrent symbiotic nova located in the Milky Way. The detection with the MAGIC telescopes proves a hadronic origin of the the gamma-ray emission, and helps in understanding the contribution of novae to the cosmic ray budget.

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