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H.E.S.S. Observations of the Large Magellanic Cloud

Saturday 5 December 2015 14:00 (20 minutes)

The Large Magellanic Cloud (LMC) is an irregular satellite galaxy of the Milky Way, which has been observed extensively at Very-High-Energy (VHE) gamma-rays with the H.E.S.S. telescopes, obtaining a deep exposure of 210 hours. In this talk we will present the results of this campaign.

Besides the already known PWN N 157B, these observations establish significant VHE gamma-ray emission from the super-bubble 30 Dor C and show evidence for emission from the supernova remnant N 132D. It is the first unambiguous detection of gamma rays from a super-bubble and for the first time individual cosmic-ray accelerators are identified in an external galaxy. Contrary to theoretical expectations, VHE gamma-ray emission is not detected from SN 1987A.

We will discuss these three objects, representing the high-energy tip of the VHE gamma-ray source population in the LMC, as possible cosmic-ray accelerators, and compare them with similar systems in our Galaxy. Further discoveries can be expected with more sensitive surveys of the LMC in gamma-rays, for instance with the Cherenkov Telescope Array.

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