PROCEEDINGS OF SCIENCE

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

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**for the H.E.S.S.Collaboration**

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. (High Energy Stereoscopic System) telescopes, obtaining a deep exposure of 210 hours. In this talk we will present the results of this campaign.

Besides the already known pulsar wind nebula 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 the supernova remnant 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.

These results have been published in [1].

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## References

[1] H.E.S.S. Collaboration, A. Abramowski, F. Aharonian, F. Ait Benkhali, A. G. Akhperjanian, E. O. Angüner, M. Backes, S. Balenderan, A. Balzer, A. Barnacka, and et al., *The exceptionally powerful TeV γ-ray emitters in the Large Magellanic Cloud*, *Science* **347** (Jan., 2015) 406–412.



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