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Performance studies of the new stereoscopic Sum-Trigger-II of MAGIC after one year of operation

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MAGIC is a stereoscopic system of two Imaging Air Cherenkov Telescopes (IACTs) located at La Palma (Canary Islands, Spain) and working in the field of very high energy gamma-ray astronomy. It makes use of a traditional digital trigger with an energy threshold of around 55 GeV. A novel trigger strategy, based on the analogue sum of signals from partially overlapped patches of pixels, leads to a lower threshold. In 2008, this principle was proven by the detection of the Crab Pulsar at 25 GeV by MAGIC in single telescope operation. During Winter 2013/14, a new system, based on this concept, was implemented for stereoscopic observations after several years of development. In this contribution the strategy of the operative stereoscopic trigger system, as well as the first performance studies, are presented. Finally, some possible future improvements to further reduce the energy threshold of this trigger are addressed.

Collaboration

MAGIC

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