

Abstract Submitted
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The Advanced Gamma-ray Imaging System (AGIS): Real Time Stereoscopic Array Trigger K. BYRUM, J. ANDERSON, J. BUCKLEY, T. CUNDIFF, J. DAWSON, G. DRAKE, C. DUKE, B. HABERICHTER, H. KRAWZCZYNSKI, F. KRENNRICH, A. MADHAVAN, M. SCHROEDTER, A. SMITH, AGIS COLLABORATION — Future large arrays of Imaging Atmospheric Cherenkov telescopes (IACTs) such as AGIS and CTA are conceived to comprise of 50 - 100 individual telescopes each having a camera with 10^{**3} to 10^{**4} pixels. To maximize the capabilities of such IACT arrays with a low energy threshold, a wide field of view and a low background rate, a sophisticated array trigger is required. We describe the design of a stereoscopic array trigger that calculates image parameters and then correlates them across a subset of telescopes. Fast Field Programmable Gate Array technology allows to use lookup tables at the array trigger level to form a real-time pattern recognition trigger that capitalizes on the multiple view points of the shower at different shower core distances. A proof of principle system is currently under construction. It is based on 400 MHz FPGAs and the goal is for camera trigger rates of up to 10 MHz and a tunable cosmic-ray background suppression at the array level.

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