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The Advanced Gamma-ray Imaging System (AGIS): A Nanosecond Time Scale Stereoscopic Array Trigger System. FRANK KRENNRICH, J. BUCKLEY, K. BYRUM, J. DAWSON, G. DRAKE, D. HORAN, H. KRAWZCYNSKI, M. SCHROEDTER, Iowa State University — Imaging atmospheric Cherenkov telescope arrays (VERITAS, HESS) have shown unprecedented background suppression capabilities for reducing cosmic-ray induced air showers, muons and night sky background fluctuations. Next-generation arrays with on the order of 100 telescopes offer larger collection areas, provide the possibility to see the air shower from more view points on the ground, have the potential to improve the sensitivity and give additional background suppression. Here we discuss the design of a fast array trigger system that has the potential to perform a real time image analysis allowing substantially improved background rate suppression at the trigger level.

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