

Design Study of a Future Low Energy IACT Array for Ground-Based Gamma-ray Astronomy

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Recently, ground-based very high-energy gamma-ray astronomy achieved a remarkable advancement in the development of the observational technique for the registration and study of gamma-ray emission above 100 GeV. Construction of telescopes of substantially larger size than the currently used 12 m class telescopes can drastically improve the sensitivity of ground-based detectors for gamma rays of energy from 10 GeV to 100 GeV. Based on Monte Carlo simulations we have studied the response of an array of three 20 m imaging atmospheric Cherenkov telescopes (IACT) as a prototype for a future low energy system. The sensitivity of a three-telescope array as a function of optical reflector size and telescope separation in the array was investigated in detail. The results of this study will be presented at the symposium.