

Background rejection methods for tens of TeV gamma-ray astronomy applicable to wide angle timing arrays

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A 'knee-like' approximation of Cherenkov light Lateral Distribution Functions, which we developed earlier, now is used for the actual tasks of background rejection methods for high energy (Tens and hundreds of TeV) gamma-ray astronomy. We use our methods basically for HiSCORE wide angle timing array consisting of Cherenkov light detectors with spacing 100 m covered 0.2 km² presently and up to 5 km² in future. However, it can be applied for other similar arrays. It is shown that application of multivariable approach (where 4 parameters of knee-like approximation are used) allows to reach a large factor of background rejection but it strongly depends on number of hit detectors.

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