

## Modeling of threshold energy of a small-size Cherenkov telescope with a SiPM camera

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Full-particle Monte-Carlo simulations of extensive air showers (EASs) induced by 0.3-30 TeV cosmic gamma-rays and cosmic ray protons as well as of Cherenkov radiation generated by such showers have been carried out. Further modeling of Cherenkov photon transport in the optical system and camera of a  $\sim 10 \text{ m}^2$  mirror area imaging Cherenkov telescope based of modern OnSemi/MicroFJ silicon photomultipliers has been undertaken. It has been shown that even with strict selection criteria which would ensure a high quality of the EAS images recorded by the detector camera, the threshold detection energy would not exceed 0.8 TeV, which is approximately twice as low as the threshold currently achieved at the small-size TAIGA-IACT telescope with similar mirror area and a camera based on vacuum photomultiplier tubes.

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