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Exotic needles in the Cherenkov telescopes haystack

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Ground-based Imaging Cherenkov Telescopes observed the Cherenkov radiation emitted in extended atmospheric showers generated by cosmic gamma rays in the TeV regime. The rate of these events is normally overwhelmed by many orders of magnitude larger triggers from cosmic rays induced showers. A large fraction of these "background" events is vetoed at the on-line trigger level, but a substantial fraction still go through the trigger and is saved on data for the off-line reconstruction. What kind of information can carry those events, normally rejected in the analysis? Is there the possibility that an exotic signature is hidden in those data? In the presentation, we will discuss some science case, and the problems related to those searches, for the current and future generation of these telescopes.

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