

Observing the sky continuously at extreme photon energies with ALTO/COMET (11+3)

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ALTO is a future very-high-energy (VHE) gamma-ray observatory, which is currently in the prototyping phase. The proposed design of the array consists of more than a thousand Water Cherenkov Detectors (WCDs) each coupled with a liquid scintillator. The observatory will be installed at an altitude of 4 to 5 km above the sea level in the Southern Hemisphere. WCDs sample the secondary particles in the extensive air showers generated by VHE gamma-rays and cosmic rays while the scintillators help in tagging the presence of muons. Preliminary studies using the simulation shows that the scintillators help in improving the signal over background discrimination by 15 to 30% depending on the energy range. The first phase of the prototype, comprised of two WCDs and scintillators, has been taking data since February 2019. In the poster, I will present the simulation performance and some results from the prototype activities. Finally I will also present the future steps of the project.

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