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## Hybrid concept of detection for a wide-field gamma-ray observatory using Cherenkov telescopes

The hybrid detection approach in astroparticle physics has been successfully employed in cosmic-ray experiments and is currently being explored by gamma-ray observatories like LHAASO. We present a study on the hybrid detection concept for the future Southern Wide-field Gamma-ray Observatory (SWGO), integrating multiple Cherenkov telescopes represented in the analysis by Single-Mirror Small-Size imaging atmospheric Cherenkov Telescopes (SST-1M) located next to the surface array of water Cherenkov detectors (WCDs). We discuss the mutual benefits of this hybrid approach and present simulation-based results on key performances. Our findings points to the fact that the combination of wide field-of-view and continuous operation of WCDs with the high angular and energy resolution of Cherenkov telescopes could significantly improve the overall detection capabilities of the SWGO experiment.

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