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Sky survey of VHE gamma ray sources with LHAASO-WCDA

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Very high energy (VHE,>100 GeV) gamma-rays open a crucial window to explore the “non-thermal Universe”. High-sensitivity, unbiased surveys of the gamma-ray sky are important to find new astrophysical objects - both to understand their bulk properties, and to constrain new physics beyond the standard model. Up to now, more than 230 sources are detected mainly by IACT (like Whipple, HESS, MAGIC and VERITAS) and ground-based detectors (like MILAGRO, ARGO-YBJ, HAWC). The Water Cherenkov Detector Array (WCDA) is a major component of the Large High Altitude Air Shower Array Observatory (LHAASO), expected to be about four times more sensitive than HAWC in the 1-10 TeV region. With large field of view (FOV) and high duty cycle, WCDA is expected to discovery more weak sources located at northern sky.

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