

First Light from HAWC

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The High Altitude Water Cherenkov (HAWC) experiment, under construction at Sierra Negra, Mexico, consists of a 22500 square meter area of water tanks instrumented with light-sensitive photo-multiplier tubes. The experiment is used to detect energetic secondary particles reaching the ground when a 50 GeV to 100 TeV cosmic ray or gamma ray interacts in the atmosphere above the experiment. The first stage of the instrument with 10% of the channels deployed has been completed and is performing as expected, with 30% of the channels anticipated by the summer of 2013. HAWC complements existing Imaging Atmospheric Cherenkov Telescopes and the space-based gamma-ray telescopes with its extreme high-energy reach and its large field-of-view. The HAWC instrument will be used to study particle acceleration in astrophysical sources but it can also be used to search for more exotic phenomena such as dark matter annihilation, SUSY Q balls, and Lorentz invariance. I will present the construction status of HAWC, including first data from the instrument, and discuss its expected sensitivity in the context of the main science objectives.