

# Batch test of PMTs for the water Cherenkov detector array in LHAASO project

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The Large High-Altitude Air Shower Observatory (LHAASO) is being built at an elevation of 4410 meters in Haizi Mountain, Sichuan province of China. One of its main goals is to survey the northern sky for very high energy gamma ray sources via its ground-based Water Cherenkov Detector Array (WCDA). WCDA is consisted of 3120 water detector cells, divided into 3 water ponds. A hemispherical 8-inch photomultiplier tube (PMT) CR365 (made in Beijing Hamamatsu Photon Techniques INC) is installed at the bottom center of each cell in the first water pond, collecting Cherenkov photons produced by air shower when cosmic ray crossing the water. By the end of 2019, over 900 PMTs have been tested and installed in the WCDA, taking physics data. This presentation introduces the batch calibration and performance test of CR365, including the PMT batch test system and test result in detail.

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**Primary authors:** Dr LI, Xin (University of Science and Technology of China); Dr JIANG, Kun (University of Science and Technology of China); Prof. LI, Cheng (University of Science and Technology of China); Prof. TANG, Zebo Tang; Mr LIANG, Zheng (University of Science and Technology of China); Mr LI, Yang (University of Science and Technology of China)

**Presenter:** Dr LI, Xin (University of Science and Technology of China)

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