

# The 3-inch Photomultiplier System of the JUNO Experiment

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JUNO is a multipurpose experiment under construction in China. In addition to 18,000 20-inch large photomultipliers (LPMTs) serving as the primary light-detection device, the JUNO central detector will be instrumented with 25,600 custom-made 3-inch small photomultipliers (SPMTs) to boost the physics potential of the experiment. The SPMTs will mostly operate in the photon-counting and will help to calibrate the energy response of the LPMTs. They will also aid the measurement of supernova neutrinos and will improve the muon track reconstruction whose performance is important for background rejection. The SPMTs, together with their power and readout systems, will have to operate under water for over 20 years, posing challenging constraints on the design, reliability and implementation of this major subsystem of JUNO. In this poster, we will present the innovative design of the JUNO SPMT system, its impact on physics, and the current status of SPMT production and testing.

## Secondary track (number)

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