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Event reconstruction for reactor anti-neutrinos in JUNO

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Jiangmen Underground Neutrino Observatory (JUNO), located in the southern part of China, will be the world's largest liquid scintillator (LS) detector upon completion. Equipped with 20 kton LS, 17612 20-inch PMTs and 25600 3-inch PMTs in the central detector, the primary goal of JUNO is to determine the neutrino mass ordering by precisely measuring the oscillation energy spectrum of anti-neutrinos from reactors. One of the main challenges for JUNO is the demanding unprecedented energy and vertex resolution. This talk will present some recent highlights on PMT waveform reconstruction, vertex and energy reconstruction for reactor anti-neutrinos in JUNO. Both traditional methods and novel ones based on Machine-Learning will be covered, which in principle could also be applied to other LS detectors.

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