Poster session 1 - Monday 4 July

P1.008 Performance evaluation of the 50 cm Box-and-Line PMT for Hyper-Kamiokande

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Hyper-Kamiokande is a next generation large water Cherenkov detector proposed for a discovery of proton decay and neutrino observations. It is planned to have 20 times larger volume than Super-Kamiokande, and 99,000 next generation photo sensors are required. One candidate of the sensor is a 50 cm Box-and-Line dynode photomultiplier tube, which have excellent time resolution and energy resolution. The first type of Box and Line PMT was developed in 2014 and the basic performances evaluation is ongoing to decide the photosensor for Hyper-Kamiokande. In this presentation, I will describe the basic performance like 1 photoelectron charge distribution, timing resolution, gain, dark rate, and more detailed performance like magnetic field, HV, temperature dependence.