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Electronics for Multi-PMTs for the IWCD at Hyper-Kamiokande

Tuesday, May 25, 2021 8:24 AM (18 minutes)

The Intermediate Water Cherenkov Detector (IWCD) will be a new near detector for the approved Hyper-Kamiodande experiment. It will use approx. 500 multi-PMT modules (mPMTs) as its photosensors. Each mPMT will house nineteen 3" PMTs enclosed in a water-tight pressure vessel, along with the associated electronics. In this talk, we will briefly describe the overall architecture of the electronics system, followed by a description of analog front-end electronics, digitization system utilizing flash-ADC converters, digital signal processing algorithms planned for data compression and extraction of pulse features (i.e. estimation of time of arrival and charge), and finally high voltage and slow-control systems.

TIPP2020 abstract resubmission?

No, this is an entirely new submission.

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Primary author: ZIEMBICKI, Marcin (Warsaw University of Technology (PL))

Presenter: ZIEMBICKI, Marcin (Warsaw University of Technology (PL))

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