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High Voltage system for the Double Chooz experiment

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Double Chooz experiment is a reactor neutrino experiment to measure the undetected mixing angle θ_{13} , which is one of the most demanded parameters in neutrino physics. We will place two identical detectors to accomplish the systematic-free measurement of the neutrino disappearance.

Each detector has 468 PMTs which will detect scintillation light generated by neutrino or background events. And nominal High voltage values are defined so that every PMT have 10^7 gain. High voltage system is very important in the experiment, since the PMT gain should be affected by the high voltage directly. In Double Chooz, we adopted the HV crate SY1527LC and the module A1535P produced by CAEN, and developed the online system for both control and monitoring. Moreover, we have calibrated the each module using a special calibration module developed by CAEN. The offline data quality monitoring system is also developed for physics analyses. In this presentation, the high voltage system for the Double Chooz experiment and the performance will be presented.

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