We have studied the afterpulse of a hemispherical photomultiplier tube for an upcoming reactor neutrino experiment. The timing, the amplitude, and the rate of the afterpulse for a 10 inch photomultiplier tube were measured with a 400 MHz FADC up to 16 µs time window after the initial signal generated by an LED light pulse. The time and amplitude correlation of the afterpulse shows several distinctive groups. We describe the dependencies of the afterpulse on the applied high voltage and the amplitude of the main light pulse. The present data could shed light upon the general mechanism of the afterpulse.

The afterpulse of 20” PMTs has been characterized for JUNO(Jiangmen underground neutrino experiment). We tested 150MCP PMTs and 20 HAMAMATSU PMTs using the lighttight dark room and EMF shielding. waveform 20mus after the main pulse is recorded with commercial ADC and JUNO electronic. LED lightsource; two(three) groups of AP was confirms for HAMMATSU(MCP) PMTs, also the time,rate,charge distribution was described. The AP results can shed light upon the general mechanism of the afterpulse of the newly developed MCP PMT