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Accumulated PSD variation around some strong earthquakes in 2018

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On February 2nd, 2018, China Seismo-Electromagnetic Satellite (CSES) was launched in Jiuquan Satellite launch site in China. CSES is the first satellite-based platform for Chinese earthquake stereoscopic monitoring system and first satellite for geophysical fields detection. Onboard CSES, there are 8 payloads, namely Electric Field Detector (EFD), SCM (Search Coil Magnetometer), HPM (High Precision Magnetometer), PAP (Plasma Analyzer Package), LAP (Langmuir Probe), GRO (GNSS Radio Occultation), HEP (High Energy Particle Package), TBB (Tri-Band Beacon). Among the 8 payloads, EFD will produce the waveform and power spectrum density (PSD) from DC to 3.5MHz frequency. From February to October 2018, the in-orbit test was done. During this period, there occurred some strong earthquakes with magnitude larger than 7. In this work, the accumulated PSD (APSD) was computed and compared along the time. The results show that before each strong earthquake, there are some variation in the local APSD several days before each event and most variation are in low frequency, lower than 20kHz.