



## **The preliminary results of High Energetic Particle Package onboard CSES**

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This abstract gives a description and the first results of the high-energy particle detector(HEPP) placed onboard the CSES satellite. This detector includes three independent detectors namely HEPP-H, HEPP-L and HEPP-X.

The HEPP-H and HEPP-L are aimed to measure energetic particle fluxes in the energy range from 100keV to about 50MeV for electron and 2Mev to about 200MeV for proton in order to provide information on the energetic particles which can interaction with the low frequency waves.

The HEPP-X can provides information of the Solar X ray in the energy range from 1keV to about 20keV which can be used to evaluate the effects of solar activity to the Earth.

The satellite was launched on Feb 2 of 2018. The data received during orbit test show for the first time that the detector work well and the detector data can be used to study the variation of the energetic particles during the magnetic storm and substorm and also the relationship between the earthquake and the energetic particles at the lower ionosphere.