



## **The preliminary results of the search coil magnetometer (SCM) onboard the China Seismo-electromagnetic Satellite (CSES)**

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Search coil magnetometer (SCM) is a payload onboard the China Seismo-electromagnetic Satellite (CSES), which is planned to be launched in early February, 2018.

Its data acquisition system can collect the fast variation of geomagnetic vector field at the orbit height, based on the Faraday's Law and the orthogonal tri-axial magnetic sensor design. In order to reduce interference suffering from the satellite platform, the distance from magnetic sensors to the platform is 4.5 meter.

SCM has three work modes, including (1) burst mode acquiring and outputting waveform data with a 51.2 kHz sampling rate, (2) survey mode outputting power spectrum density data ranging from 10Hz to 20kHz, and (3) calibration mode. Under the calibration mode, SCM can simultaneously produce the standard signals with frequencies of 625Hz and 10kHz.

SCM has 4 levels data product. Generally, the level-2 to level-4 will be open. The level-2 is defined as adding orbit, attitude parameters and other auxiliary data into the obtained scientific data. Level-3 and level-4 is the temporal and spatial dynamic variation of the revisiting orbit data in certain region based on the level-2 data.

In this talk, its preliminary results including the level-2 to level-4's waveform and time-frequency profile will be illuminated.