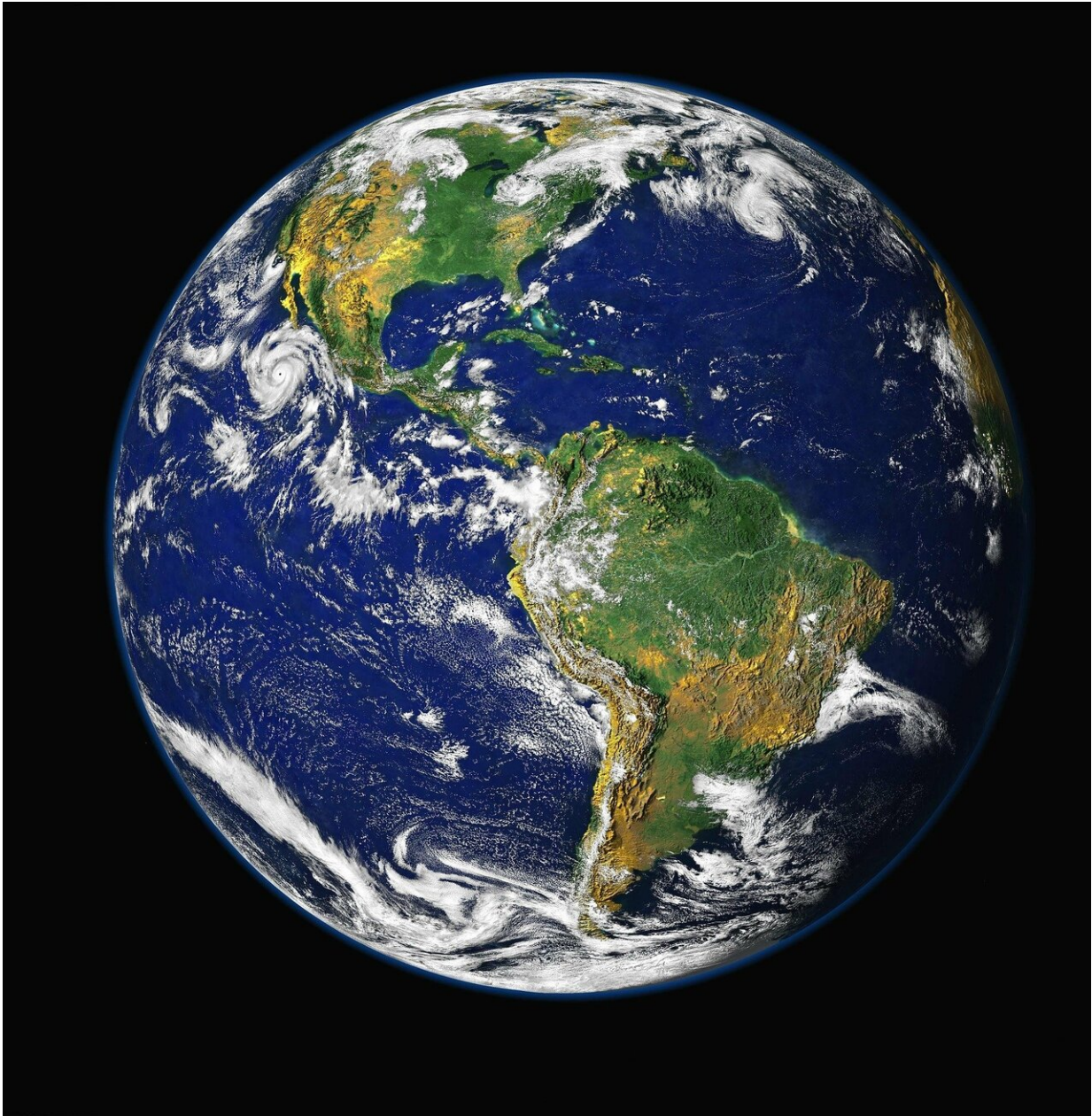


Earth observation instruments pass review

October 19 2020, by Zhang Nannan



The study highlights a fundamental shift in the nature of crust formation 3.75

billion years ago, which facilitated the formation of Earth's unique, stable continental crust. Credit: CC0 Public Domain

As part of the atmospheric environment monitoring satellite (DQ-1) programs, the Environmental Trace Gas Monitoring Instrument (EMI-II) and Particulate Observing Scanning Polarization (POSP) passed the delivery acceptance review on science island of Hefei, Anhui province last month.

The Earth observation instruments, EMI-II and POSP, are two of three remote sensing instruments developed by the Anhui Institute of Optics and Fine Mechanics (AIOFM), Hefei Institutes of Physical Science. They will facilitate DQ-1, a comprehensive exploration satellite, in terms of atmospheric environment monitoring.

With a spatial resolution index of 24 kilometers, EMI-II is used to obtain hyperspectral remote sensing products in the ultraviolet to visible band to achieve quantitative monitoring of the global atmospheric trace composition distribution and changes. It is mainly used for national pollution reduction, environmental quality supervision, atmospheric composition and climate change monitoring. It also demonstrates the hyperspectral remote sensing monitoring applications such as polluted gasses, regional ambient air quality, atmospheric composition, and climate change.

As for POSP, it can obtain high-precision atmospheric aerosol parameters through traversing scans, and retrieves the microphysical characteristic parameters of aerosols, hence provides a variety of data including routine monitoring data for aerosols, basic data input for fine particulate matter inversion. POSP plays important role in air quality monitoring and Large-scale long-term climate change monitoring.

DQ-1 is a scientific research satellite in the national civil space infrastructure planning. It is loaded with five different types of remote sensing instruments altogether, three of which are developed by AIOFM.

With [combination](#) of active and passive means, DQ-1 can enhance the dynamic monitoring of atmospheric environment and improve agricultural disaster [monitoring](#) capabilities, thus promote Chinese remote sensing applications in terms of environmental protection, meteorology and agriculture.

Provided by Chinese Academy of Sciences

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