



Research and Operational satellite programs for Earth Science and Applications from Space in China

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This presentation will provide an overall introduction to the research and operational satellite programs on earth science and applications from space in China. China has a long-term plan for earth science and applications from space. The national level program includes the space science program which dedicated to scientific research and the civil space infrastructure program dedicated to operational applications. In addition, a high-resolution earth observation program is also planned and being implemented for development and demonstration for technologies of both the satellite and applications.

For the wing of science, earth science from space program is planned based on the earth system science and global change research orientations. Water cycle, energy cycle and balance, bio- and chemical cycle are the three themes of the scientific missions. The Water Cycle Observation Mission (WCOM), which is a synergetic global water cycle key par had been planned and implemented for mission definition and payload technology development. The mission will be implemented and aim at launching around the end of 2021. WCOM will provide systematic and much accurate measurement of water cycle parameters of ocean and land surface and atmosphere. Mission definition of the Energy Balance Observation Mission (EBOM) had been approved, which is aimed at implementation during the 14th five-year-plan (2021-2025).

For the wing of applications, earth observation missions of the civil space infrastructure program include 3 series and 3 specific satellite series. The 3 series include 7 constellations for land surface, ocean surface and meteorological applications. The specific satellite series include the ocean environment surveillance satellite series, the physical field satellite series and the atmospheric composition satellite series.

In this presentation, the plan and development status will be introduced. Details about the science missions will be provided.