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Author: Dr. Chen Xiaoli

Beijing Institute of Space Mechanics & Electricity, China Academy of Space Technology (CAST), China

THE LATEST DEVELOPMENT OF OPTICAL REMOTE SENSING SATELLITES AND PAYLOAD
FOR EARTH OBSERVATION IN CHINA**Abstract**

This paper reviews the recent development of China's optical remote sensing satellites for earth observation and their typical optical payloads. The GF-1 satellite network including 4 satellites was put into operation, the GF-5 satellite, GF-6, GF-11 and GF-7 satellites were launched into orbit, the high-resolution earth observation system was basically completed. Among them, GF-7 is the China's first civilian optical stereo mapping satellite, capable of achieving 1:10,000 scale stereo mapping. The satellite is equipped with a dual-line array camera and a dual-beam laser altimeter. The Civil space infrastructure is progressing well. In Marine observation, in 2018, the HY-1C satellite is launched, which is equipped with Chinese ocean color and temperature scanner COCTS Coastal Zone Imager CZI, Ultraviolet Imager, Calibration Spectrometer and Automatic Identification System (AIS). Compared to HY-1 A/B satellite, the observation precision and observation range of HY-1C satellite have increased substantially. In land observation, ZY-1 02D satellite and CBERS-04A (The China-Brazil Earth Resource Satellite) satellite have been launched. As China's first civilian hyperspectral satellite, the ZY-1 02D satellite is equipped with a visible near-infrared camera and a hyperspectral camera. The visible near-infrared camera has 9 spectral bands, the panchromatic resolution is better than 2.5m on 778km orbit and the imaging width is 115km. The hyperspectral camera has 166 spectral bands with width of 60 nm and spatial resolution is 30m. The Spectral resolution reaches 10nm in near-infrared scope and 20nm in short-wave infrared scope. Commercial remote sensing satellite are developing rapidly. SuperView-1 satellite, JL-1 satellite and other satellites net have been worked. Innovative business models continue to emerge, and the application industry is maturing.