

21st IAA SYMPOSIUM ON SMALL SATELLITE MISSIONS (B4)
Small Earth Observation Missions (4)

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GF-1 SATELLITE HIGH RESOLUTION & WIDE SWATH SYSTEM DESIGN AND TECHNOLOGY
CHARACTERISTICS

Abstract

GF-1 satellite is the first satellite of China high resolution earth observation system (CHEOS). This is the new generation civilian small satellite with 5-8 years design lifetime. On April 26 2013 GF-1 was successfully launched at the JIUQUAN satellite-launching center. There are 6 sets of cameras on the platform. Two high resolution cameras can obtain panchromatic images with 2m GSD and 4 bands multispectral images with 8m GSD. All of them have 69km swath. Other 4 sets of wide-swath multispectral cameras can obtain 4 bands multispectral images with 16m GSD and combined swath of 830km. This satellite has high resolution, multispectral, wide swath and rapid revisiting abilities. The platform uses CAST2000 bus. It operates in sun-synchronization orbit and provides a revisit time of 4 days at equator. From Apr. 28 2013, six cameras have captured a large number of distinct images. This paper introduces the mission and system design, image quality, in orbit operational application and especially the technology characteristics of GF-1 satellite.