

EARTH OBSERVATION SYMPOSIUM (B1)  
Earth Observation Sensors and Technology (3)

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FIRST IN-ORBIT PERFORMANCES OF PLEIADES HIGH RESOLUTION CNES EARTH  
OBSERVATION SYSTEM**Abstract**

On December 17th 2011, the first Pléiades satellite was successfully launched from Kourou spaceport by a Soyuz rocket. Pléiades is an optical observation system consisting of two identical satellites designed to deliver high resolution panchromatic and color imagery products. Each satellite can deliver up to 450 images per day, equivalent to 300 000km. When operating on a phased orbit, the two satellites can offer a daily revisit capability on any point of the globe. The programme is developed under the responsibility of the French space agency CNES. Astrium is the prime contractor of the satellites. The key characteristics of the system are: • 70cm resolution at nadir in panchromatic, 2.80m in multi-spectral; • 20km swath at nadir; • 10m geo-location accuracy (90°) • Very high pointing agility by means of Control Momentum Gyroscope, the very first ones developed in Europe. These features make Pléiades products the ideal solution for precision mapping and photo interpretation, enabling 50cm color products, ortho-rectified imagery, enlarged swath 100km x 100km in strip mapping, stereo and tri-stereo imaging, corridor acquisition, etc. . . The in-orbit acceptance tests demonstrate satellite performances above the expectations. The paper will give a status of the system performances observed in flight over the six first months of 2012, and will focus on the in-orbit validation of satellite key technologies developed for reaching such successful results.