SMALL SATELLITE MISSIONS SYMPOSIUM (B4)
Small Space Science Missions (2)

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PRISMA – A FORMATION FLYING MISSION ON THE LAUNCH PAD

Abstract

The PRISMA technology demonstration mission for autonomous formation flying and rendezvous technology is during spring -09 undergoing the final steps in the system verification process. The project comprises two satellites which will be launched clamped together and separate in orbit. The satellites then constitute an in-orbit test bed for Guidance, Navigation and Control (GNC) algorithms and sensors for advanced formation flying and rendezvous. Several experiments involving GNC algorithms, sensors (GPS, RF and vision based) and thrusters, will be performed during a 10 month mission with launch planned for end of 2009. The project is run by the Swedish Space Corporation (SSC) and is funded by the Swedish National Space Board (SNSB). Important support comes from the German Aerospace Center (DLR), the French Space Agency (CNES) and the Technical University of Denmark (DTU). Additionally, the project will also serve as a flight demonstrator for two novel motor technologies: One that uses environmentally clean and non-hazardous propellant, and one that consists of a microthruster system based on MEMS technology. The project has since the spring -08 been extensively validated in a combination of S/W simulators and hardware-in-the-loop testing on system level. Also, the satellites have successfully passed the environmental test campaign. The project will pass a flight acceptance review in May -09 and will after delivery and integration of the flight units of the RF- based navigation instrument be ready for launch. This paper will give an overview of the mission status short before the planned launch campaign start. This includes both the spacecraft readiness status and the status of the ground segment and operations preparations.