



Swarm Mission Status, multi-mission opportunities and long-term plan

Jerome Bouffard (1), Rune Floberghagen (1), Roger Haagmans (2), and Diego Fernandez (1)

(1) European Space Agency, Directorate of Earth Observation Programmes, Frascati, Italy , (2) European Space Agency, Directorate of Earth Observation Programmes, Noordwijk, The Netherlands

Launched by the European Space Agency (ESA) in November 2013, the three-satellite Swarm constellation provides high-quality measurements of the Earth's magnetic field and associated plasma environment. After more than five years in space the mission has achieved remarkable scientific results and opens the door for many innovating applications largely beyond its original scope. Thanks to the excellent health and quality of all on-board systems, the available resources and the strong support from the scientific user community, the ESA's Member states have approved the extension of Swarm until end 2021.

This contribution details the present technical and programmatic status of the mission with particular emphasis on the plans for the extended mission, in terms of science data products as well as broader research goals that will be actively supported by the Agency. This paper is an occasion to present on going Swarm-based research activities and innovative products, which aims at a better understanding of the interaction between the ionosphere/thermosphere system with the lower atmosphere and with the magnetosphere. Strategic collaboration initiatives with other sensor systems (e.g. Canadian-POP and Chinese missions) and opportunities for synergetic exploitation of Swarm with complementary observations for geo-hazards and space weather applications will be also discussed.

Overall, this contribution aims to sketch the envisaged contribution of Swarm to all areas of near-Earth space science and operational applications in which the extended mission is expected to play a significant role in the years to come.