



## **ULF wave power features in the topside ionosphere revealed by Swarm observations**

Constantinos Papadimitriou (1,2), Georgios Balasis (1), Ioannis A. Daglis (2,1)

(1) IAASARS, National Observatory of Athens, Athens, Greece (constantinos@noa.gr), (2) Section of Astrophysics, Astronomy and Mechanics, Department of Physics, University of Athens, Greece

Recently developed automated methods for deriving the characteristics of ultra low frequency (ULF) waves are applied to the Swarm datasets in order to retrieve, on an operational basis, new information about the near-Earth electromagnetic environment. Processing Swarm measurements with these methods helps to elucidate the processes influencing the generation and propagation of ULF waves, which in turn play a crucial role in magnetospheric dynamics. Here we present the first ULF wave observations by Swarm, obtained by applying our analysis tools to the latest months of the mission (i.e. after the constellation attained its final configuration) using scalar magnetic field data. We find that different local times (LTs) correspond to the maximum wave activity seen by the upper satellite and the lower pair of satellites. If these initial results were to be confirmed, it could imply significant spatial variability of ULF wave turbulence in the upper ionosphere.