

EGU2020-13403

<https://doi.org/10.5194/egusphere-egu2020-13403>

EGU General Assembly 2020

© Author(s) 2020. This work is distributed under the Creative Commons Attribution 4.0 License.



Swarm Langmuir Probe measurements : analysis and characterization of the data quality

Filomena Catapano¹, Stephan Buchert², Iginio Coco³, Ewa Slominska⁴, Enkelejda Qamili¹, Lorenzo Trenchi¹, and Jerome Bouffard⁵

¹Serco Italia, European Space Agency, ESRI, Italy (filomena.catapano@esa.int)

²Swedish Institute of Space Physics, Uppsala, Sweden (scb@irfu.se)

³National Institute of Geology and Volcanology, Italy (iginio.coco@ingv.it)

⁴OBSEE, Warsaw, Poland (eslominska@icloud.com)

⁵European Space Agency, ESRI, Italy (jerome.bouffard@esa.int)

Swarm is a three-satellite constellation mission launched by ESA in 2013 flying at an altitude of about 510 km for Swarm Bravo, and 460 km for Alpha and Charlie. The three satellites carry identical instruments continuously collecting ground-breaking data on the various components of the magnetic field and on the near-Earth environment and their dynamics. The Electric Field Instrument (EFI) is composed by the Thermal Ion Imager (TII) and two Langmuir Probes (LPs) which measure the electron density, temperature and spacecraft potential with the cadence of 2Hz. The scope of this work is to provide an updated status of the L1B data derived from LP measurements, describing some of anomalies affecting the data products as well the outcomes of recent investigations aiming at further improving the science quality of the LP-based Swarm data.