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Science Effects of Observing Affects of Langmuir Probe Coatings on Swarm (G)*

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The European Space Agency's trio of Swarm were launched in November 2013 to measure the environment around Earth using a suite of instruments. Each satellite is equipped with two Langmuir probes that run in parallel and have different coatings. One is gold plated and the other has a titanium nitrate coating. This configuration on each satellite provides an opportunity to study if and how coatings on Langmuir probes may affect plasma density and temperature measurements.

In this study, data are selected from each probe pair to control for solar illumination, magnetic field orientation, and operative mode to assess the extent to which differences in measurements are present. Any differences from the two probes can be attributed to the surface coatings. Preliminary results will be presented and discussed.

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