



## **Geometric-dynamic quality indicators for Swarm Level-2 FAC data products**

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The ESA Swarm constellation provides Failed-aligned current (FAC) density products through both single satellite and dual satellite estimation. Each of the estimation bothers a set of assumptions, such as static sheet-like planer current structure normal to the velocity direction. To measure how well the underlying assumptions are satisfied, we define indicators of stationary, planarity and inclination. For high significance, the study is focusing on the aurora oval crossing where FAC intensity is much stronger than at other latitudes. The indicators present remarkable geographic and geomagnetic dependence. Furthermore, the consistency between the single satellite product and the dual satellite product, measured by their correlation coefficient, displays remarkable dependence on the indicators.