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Sommario/riassunto

This open access book provides a comprehensive toolbox of analysis techniques for ionospheric multi-satellite missions. The immediate need for this volume was motivated by the ongoing ESA Swarm satellite mission, but the tools that are described are general and can be used for any future ionospheric multi-satellite mission with comparable instrumentation. In addition to researching the immediate plasma environment and its coupling to other regions, such a mission aims to study the Earth’s main magnetic field and its anomalies caused by core, mantle, or crustal sources. The parameters for carrying out this kind of work are examined in these chapters. Besides currents, electric fields, and plasma convection, these parameters include ionospheric conductance, Joule heating, neutral gas densities, and neutral winds. .