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SAFE Project: An integrated system of earthquake physics study from ground and space observations

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The Swarm satellite mission by ESA has the primary goal to measure the magnetic signals from the Earth to get new insights of the geomagnetic field and its sources. The SAFE ("Swarm for Earthquake study") project (funded by ESA in the framework "STSE Swarm+Innovation", 2014) aims at applying the new approach of geosystemics to the analysis of Swarm satellite electromagnetic data for investigating the preparatory phase of earthquakes. The main objective of this project is to explore the possible link between magnetic ionospheric anomalies and large earthquakes analysing Swarm as well as ground based data (seismic, magnetic, GNSS, etc.). This work will show the state of the art in the study of lithosphere-atmosphere-ionosphere coupling (LAIC) together with some recent case studies.