NUMERICAL METHODS FOR UNVEILING EARTH'S CRITICAL RESOURCES

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ABSTRACT

As we enter the third energy transition in human history, the coming decade will be a defining test for humanity and its capacity to respond to unprecedented global challenges such as clean energy and critical resources.

This Minisymposium covers modelling and data-techniques in geosciences with application to green energy and critical minerals, among others. The topics of interest include, but are not limited to, numerical techniques to tackle dynamical and static geophysical problems, and data-methods and machine learning to deal with large geophysical datasets. It serves as a forum to exchange ideas for the future development in this field.

This session is proposed within the MSCA Doctoral Network (EarthSafe)**.** This network supports the rapid transition to green energy and low-carbon economies in Europe and beyond by creating transformational data-fusion platforms to inform and enhance global exploration frameworks for deep geothermal resources and critical minerals to support green technologies, including *i) the complementary strengths and resolutions of multiple geodatasets, ii) a combination of Artificial Intelligence, probabilistic inverse theory and state-of-the-art computational modelling and iii) a social innovation component to support the creation and adoption of socially-responsible and sustainable practices.*