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Planetary Science and Machine Learning

Today, the most pressing scientific and engineering problems are typically nonlinear, dynamic, and multidimensional in space and time. To capture such complexity, researchers of every discipline are progressively adopting machine learning algorithms which model physical phenomena and interpret observations by learning through data. The aforesaid is provoking a fundamental change in the way we do science. In my talk, I will present my group's recent work on machine learning as a tool to understand how terrestrial planets like Earth form and evolve. I will also outline possible synergies with the research program being carried out in Geodetic Earth System Science, Geoinformatics and Geodetic Sensor Systems at the Geodetic Institute at KIT, as well as our future work centered on big data and planetary science.