Progress and future prospects of data-driven analysis in solid-earth science

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The high-dimensional and large amounts of data sets in geosciences show very complex behavior and often have large uncertainty. It is important to extract a small number of essential parameters which can explain the phenomenon from high-dimensional data in order to understand the behavior of dynamic solid earth. Under the framework of a big scientific project entitled as "Initiative for high-dimensional data-driven science through deepening sparse modelling" supported by the MEXT in Japan (http://sparse-modeling.jp/index_e.html), we try to introduce data-driven approaches into geosciences. In this presentation, we will share some applications in solid-earth science and discuss future prospects.

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