

Data-driven science for solving problems in geosciences

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Recent technological development of measurement and observation enables us to obtain a large amount of high-dimensional data. Effective use of high-dimensional data requires a robust framework to make the tight connection of information science to the original purpose of data analysis derived from various scientific disciplines [1]. Since 2013, we have launched a big scientific project entitled as “Initiative for high-dimensional data-driven science through deepening sparse modelling (FY2013-FY2017)” funded by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) in Japan. The aim of this project is to establish a novel framework of data analysis for natural sciences, namely, data-driven science. Its target fields are very wide including geosciences, astronomy, biology, and medical and brain sciences. In this presentation, we introduce the concept of data-driven science and some applications to geosciences [e.g. 2-5].

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Keywords: data-driven science, sparse-modeling, machine learning