Application of advanced statistical analysis in geoscience and its evolution

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An innovative methodology using sparse modelling as Bayes' theorem for discrimination between tsunami deposits and marine stratum is significantly important, because of its identification of sedimentation origin and evidences of past tsunami event frequency. The authors started an interdisciplinary research area for innovative modelling in the field of geoscience. One of the topics is the geo-statistical sparse modelling of tsunami deposits and soils using metal elements. Sparse modelling is based on fundamental principle of sparseness; most important information is embedded in the low-dimensional subspace for high-dimension data.

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