

## Similar data retrieval from enormous dataset on plasma wave spectrum

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Recent years, total amount of measured data by scientific satellites is drastically increasing as the resolution of the instruments become higher. It is necessary for researchers to develop new computation methods for the efficient analysis of the enormous dataset. In the present study, we developed a new algorithm for similar data retrieval. This algorithm was applied to the spectrum data obtained by the VLF instruments onboard the Akebono satellite.

We firstly introduced several kinds of key parameters to describe distinctive feature of wave phenomena, and stored them in a database system. Secondly, we developed a user interface on a web server. In the system, we implemented some options to be selected by users such as key-parameter selection and degree of ambiguity. Finally we evaluated our system and concluded that the developed algorithm works well for the retrieval of VLF spectrum obtained by Akebono. As a future work, it is necessary to evaluate the accuracy of the retrieval result and computation time using the other datasets such as wave data obtained by KAGUYA.