

## Construction of Spatial and Temporal Knowledge Discovery Support System for Weather Satellite Images

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Knowledge discovery support system for a large set of time-series images including moving objects was constructed. The main processes of this system consist of clustering of images by Kohonen's self-organizing map and extraction of time-dependent association rules from time-series cluster IDs. This system was applied to weather satellite cloud image set taken by GMS-5 of year 1997 and 1998 and evaluated its usefulness. Precision of clustering was shown to be very high, ranging from 84.6-86.7%. Rules are then extracted from time-series Cluster ID using variable time windows. The system was designed to store all the images and extracted knowledge in the database and to implement SQL query interface, which also enabled detailed interactive knowledge discovery by end-users.