**Current status and plans of JMA operational wind product**

Kazuki Shimoji

JMA/MSC

Abstract

The Meteorological Satellite Centre of the Japan Meteorological Agency (JMA/MSC) is currently operating two geostationary meteorological satellites, MTSAT-1R and MTSAT-2. Atmospheric Motion Vector (AMV) from MTSAT is derived by tracking cloud feature from animated satellite images, and the AMV data is utilized by NWP users for computing analysis field.

The agency is going to launch follow-on meteorological satellite Himawari-8 on September 2014, and will start dissemination of operational Himawari-8 AMV from June 2015. MTSAT AMV will be disseminated in parallel with Himawari-8 AMV until December 2015 as a transition period for NWP users.

Aim of this presentation is to introduce current status of MTSAT AMV and schedule for new AMV product generated from Himawari-8.

**Motion tracking and cloud height assignment methods for Himawari-8 AMV**

Kazuki Shimoji

JMA/MSC

Abstract

Japanese next-generation Himawari-8/9 satellites will carry Advanced Himawari Imager (AHI) units capable of producing full-disk images every 10 minutes with 16 channels. The spatial resolution at the sub satellite point (SSP) is 2 km for IR channels. The use of observation data from these satellites is expected to enable the output of advanced products based on data with high temporal, spatial and

spectral resolutions.

The Meteorological Satellite Centre of the Japan Meteorological Agency (JMA/MSC) is developing new tracking and height estimation algorithm for Himawari-8 Atmospheric Motion Vector (AMV). The new algorithm is designed for effective utilization of high spatial temporal and spectral resolutions of AHI.

Major changes of the algorithm are applied to cloud feature tracking and cloud height estimation process.

In the tracking method, small and large target boxes are prepared respectively for computing two correlation surfaces. Correlation surface from small target box is used as prior information for estimating wind vector, and another correlation surface derived from large target box is used as auxiliary information for determining optimal wind vector which is consistent with both of small and large scale atmospheric motion.

Approach to height estimation method for Himawari-8 AMV is based on optimal estimation to minimize the difference between observed radiance values and the theoretical ones determined from cloud assignment and radiative transfer model parameters using three or more channels. The method will be applied to upper-, medium and low-level clouds for Himawari-8/9 IR/WV wind vectors.

In this presentation, details of the above methods, characteristic of MTSAT AMV computed by the algorithm and its impact in NWP are shown.