

Assimilation of Geostationary Hyperspectral InfraRed Sounders (GeoHIS) : Progresses and Perspectives

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ABSTRACT

Continuous atmospheric temperature and moisture profiles can be measured by high temporal geostationary hyperspectral infrared sounder (GeoHIS) radiance observations, which could capture the temporal and spatial variability for high impact weather or rapidly changing weather events. On 10 December 2016, China's FengYun-4A satellite (FY-4A) was successfully launched into geostationary orbit. The Geostationary Interferometric Infrared Sounder (GIIRS) onboard FY-4A usher in a new era in Earth observation system. It provides the first time-continuous observations of upwelling thermal infrared with high spectral resolution. Since December 2018, a subset of GIIRS longwave temperature sounding channels has been assimilated into CMA-GFS (Global Numerical Weather Prediction System of China Meteorological Administration), improving forecasts over East Asia, particularly for high impact weather forecasts including Typhoons, cold air outbreaks, and rainstorms. This talk will discuss the recent progress, current major challenges of GeoHIS assimilation based on the evaluation and assimilation of the real GeoHIS data from GIIRS.

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