

## Gauge Adjusted Global Satellite Mapping of Precipitation (GSMaP\_Gauge)

Tomoo Ushio<sup>1\*</sup>, Satoru Yoshida<sup>1</sup>, Shoichi Shige<sup>3</sup>, Kazumasa Aonashi<sup>4</sup>, Takuji Kubota<sup>2</sup>, Misako Kachi<sup>2</sup>, Riko Oki<sup>2</sup>

<sup>1</sup>Osaka University, <sup>2</sup>JAXA, <sup>3</sup>Kyoto University, <sup>4</sup>MRI

Precipitation is one of the most important parameters on the earth system, and the global distribution of precipitation and its change are essential data for modeling the water cycle, maintaining the ecosystem environment, agricultural production, improvements of the weather forecast precision, flood warning and so on. The GSMaP\_MVK is a product of surface rainfall rate with 0.1 degree and 1 hour resolution on a global basis using the data from microwave radiometers on low earth orbit and infrared radiometers on geostationary orbit, and has been widely used through internet. However, some validation results from the hydrological model show that the GSMaP\_MVK sometimes underestimates the surface rainfall rate. In this presentation, the GSMaP\_Gauge which is a gauge adjusted product to the GSMaP\_MVK for climatological studies are introduced, focusing particularly on structure and performance of the algorithm and some initial evaluation tests. Additionally, the concept and theoretical basis of the near real time product of the GSMaP\_Gauge named as GSMaP\_Gauge\_NRT is introduced.

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