



Construction of Globally-Merged Geostationary Satellites Dataset

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One of the best advantages of the earth observations by a geostationary satellite is the capability of obtaining visible (VIS) and infrared (IR) data with high resolution in both space and time. By combining the multiple IR channels, not only the heights but also types of clouds can be identified. However, there has been no global dataset of the VIS and multiple IR channels because of difficulties in the data calibration among different satellite sensors and in handling huge data volume. As one of the main targets of the ongoing project, "Formation of a virtual laboratory for diagnosing the earth's climate system", the globally-merged geostationary satellites dataset is being constructed. This dataset provides 1 h temporal resolution and spatial resolution of 0.04° for 2 or 3 IR channels and 0.01° for the VIS channel, in a latitude range of $\pm 60^\circ$. In addition, global radiation data will be derived from the dataset by utilizing some radiative models. In this way, this dataset will greatly contribute to studies on precipitation/cloud characteristics and validations of numerical models.