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Status of the GeoKompsat-2A AMI rainfall potential algorithm

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A statistical algorithm to predict the accumulated rainfall for short lead times of 0-3 hours has been developed for the Advanced Meteorological Imager (AMI) onboard the GeoKompsat-2A (GK-2A). The GK-2A is the second geostationary satellite that uses 16 channels at the finer resolutions compared to the first generation. The AMI rainfall potential algorithm is designed for nowcasting of rainfall accumulations during 0 to 3 hours based on the extrapolation and image segmentation of the outputs from the AMI rainfall rate algorithm. The algorithm is divided into two processes: the identification of rainfall feature and the tracking of rainfall feature. The rainfall features have been identified by three procedures including smoothing, thresholding, and developing region discrimination. Tracking the motion vector of the rainfall feature is then implemented by using the coefficient of variation, the mean absolute error, and the weight function. Once the motion vector is measured, the rainfall potential is advected forward by one time step (15 min for the AMI). The preliminary results of the algorithm and ongoing works will be discussed.