Applying Satellite Data for Aerosol Optical Depth and Atmospheric Environment Monitoring

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ABSTRACT

Since aerosol are one of the most important factors in the atmospheric correction of remotely sensed data, many methods have been developed in retrieving the aerosol optical depth (AOD). The dark dense vegetation(DDV) and contrast reduction method are two concepts which are mostly used for the estimation of AOD. The main aim of this study is to improve the structure function method, which lies within the contrast reduction approach, in retrieving the AOD over Taiwan. The results compared with in-site observations show significant improvements in the accuracy of the retrieved AOD. On the other hand, the optical depth and size distribution of aerosol are key parameters in the monitoring of the air quality. The two can be constructed in this study as the results indicate a high practicality in applying satellite data for the monitoring of the atmospheric environment.

Key words: Dense Dark Vegetation(DDV), Aerosol Optical Depth(AOD), Structure Function, Aerosol Size Distribution

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