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Cloud Classification of FY-2C Multi-channels Data

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Abstract:This paper classified FY-2C cloud based on over 2800 samples collected in June, July, August within 8°N-60°N, 70°E-135°E . In addition, 8 methods(6 ANNs and a PCA and a SVM) have been used to analyze the model activity based on the remote sensing theory and multi-channels' cloud characters. The result shows that: (1) As long as the samples are selected reasonable, and model characteristics are chosen appropriately, each kind of neural network model can obtain good result, and the examination accuracy achieved above 90%;(2) Compared with the present FY-2C cloud classification product, the result of cloud classification based on neural network has been improved greatly not only for pixel but also for cloud picture; (3)Cloud classification of FY-2C multi-channels data based on ANN can discriminate some kinds of cloud well which are difficult for traditional methods, such as thin cirrus and low cloud, thin cirrus and thick cirrus, cumulus congestus and cumulonimbus.
Keywords: FY-2C, Multi-channel Satellite Image , ANN, Cloud Classification