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A fast method for removing the Aerosols effects form MODIS images in North of Iran

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Due to the effect of aerosols present in the atmosphere on the satellite images, the localized study of the aerosols is important. The study shows that the effect of aerosols on the greenhouse gases and consequently on climate is undeniable where, this puts more emphasize on the necessity of this study. On the other hand, lack of information about modality of distribution of the aerosols in the atmosphere, brings uncertainties in the extraction of decent information from satellite images.

In this study without information about size and type of Aerosols, using Optical Thickness which is a measure of the amount of aerosols in the atmosphere, a fast method for relative correction of the satellite images is presented. The result shows that the variance in the scatter-plot of channel 1 of MODIS (with respect to channel 7) improves from 0.117 before correction to 0.040 after. This improvement for channels 3 and 4 is from 0.531 and 1.248 before to 0.009 and 0.241 after, respectively.