Thesis Title	A Study of Solar Radiation Depletion due to Aerosols in the Atmosphere of Thailand
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ABSTRACT

Solar radiation depletion due to aerosols in the atmosphere of Thailand was investigated. The investigation was based on comparison of the clear day solar radiation obtained from measurements and that from the model which excludes the effect of aerosols. The solar radiation depletion obtained from this investigation was used to formulate a model relating the depletion to the collected visibility data. Then the model was employed to calculate the depletion at fifty meteorological stations where visibility data are available. Results obtained from the calculation show that the depletion at the stations situated in the North, the North-east and the Central part of Thailand is high in the dry season and low in the wet season. The depletion for the stations in the South is almost constant throughout the year. It is also found that the depletion varies with latitudes of the stations during January – April. During that period, the depletion is high in the North and low in the South. It is found that the aerosols for Chiang Mai, Ubonratchathani and Nakhon Pathom are continental type and for Songkla are maritime type. The depletion was also separated into scattering and absorption. The results indicate that for the continental type aerosols, 95% of the solar radiation depletion are due to the absorption process. Furthermore, for the maritime type aerosols, absorption represents 81% of the depletion.