



## **Sensitivity analysis of diurnal global solar radiation to meteorological parameters**

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This research examines the relation of solar radiation to several meteorological parameters such as sunshine duration, temperature, relative humidity, precipitation and wind speed. A number of scientists have dealt with the estimation of the monthly global solar radiation using the Angstrom equation. In this work extraterrestrial radiation and sunshine duration are calculated from analytical equations. The daily values of the meteorological parameters used, are those observed during the period of sunlight. Data for this work are taken from two automatic meteorological stations at the prefecture of Florina in Western Macedonia, Greece. Multiple regression analysis was implied for the derivation of the solar radiation equation. Finally, the effect of each meteorological parameter (within the range of the observed values) on the estimated values of the global solar radiation was examined.