

Relationship between the solar radiation and surface temperature in Perlis

Abstract

Statistical models for predicting the solar radiation have been developed. In any prediction of the solar radiation, an understanding of its characteristics is of fundamental importance. This study presents an investigation of a relationship between solar radiation and surface temperature in Perlis, Northern Malaysia for the year of 2006. To achieve this, the data are presented in daily averaged maximum and minimum surface temperature, and daily averaged solar radiation. Since the scatter plots represent the straight line, the linear regression model was selected to estimate the solar radiation. It was found that the linear correlation coefficient value is 0.7473 shows that a strong linear relationship between solar radiation and surface temperature. The analysis of variance R^2 is 0.5585 that is; about 56 percent of the variability in temperature is accounted for by the straight-line fit to solar radiation. Based on the results, the fitted model is adequate to represent the estimation of solar radiation.