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Comparative Analysis of Nawabshah and Quetta Weather Conditions for Possible Applications of Solar Systems

The purpose of this study was to compare the weather conditions of Nawabshah and Quetta cities for possible applications of solar systems. For that, twenty two years monthly average data of insolation on horizontal surface, at various slopes on titled surface, air temperature, and earth skin temperature was acquired from National Aeronautics and Space Administration. The data was evaluated through MATLAB software. It was found from comparative analysis that Quetta city receives 6% more insolation on horizontal surface, 9% more insolation at optimum slope on tilted surface than Nawabshah city. Quetta also gets 6 % more minimum radiation at the slope of 0°, and 9% more maximum radiation at the optimum slope than Nawabshah. Moreover, Quetta has 72 % less minimum temperature and 36% less maximum temperature than Nawabshah. In addition, Quetta has 46% less average temperature and 38% less earth skin temperature than Nawabshah. It is discovered from the study that Quetta is more promising place for installation of solar systems as compared to Nawabshah city as it receives more solar radiations and less air temperature.

Keywords: Air temperature, Insolation, Solar systems, Weather conditions

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