



QUANTITATIVE ESTIMATION OF THE SOLAR RADIATION LOSS IN BRAȘOV AREA

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Abstract

Increasing the solar energy conversion into electrical or thermal energy represents an European and national priority, because it offers clean alternatives to the use of fossil fuels, in no pollutant systems, based on photovoltaic modules and solar collectors. The global solar radiation is the most important factor affecting the amount of energy produced by a PV module. In direct connection with the change in the solar energy conversion, the T_R - Loss Coefficient (Trübungsfaktor) is considered. The paper presents a methodology for calculating the T_R -Loss Coefficient of the solar direct radiation for the Brașov site, based on a method proposed by the German meteorological services. Developing a realistic estimation of the T_R factor within a year is one of the first steps in defining the input data for solar-photovoltaic or solar-thermal systems design and optimization. This factor also gives important information about the pollution in a given site, in direct connection with particulate matter.

Key words: clean environment, direct radiation, PV module, radiation loss coefficient, solar radiation

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