



CLOUDS INFLUENCE ON THE SOLAR RADIATION FOR A MOUNTAIN LOCATION

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Abstract

In designing an efficient photovoltaic system, the meteorological data of the system location must be considered. Field data registered over years prove the importance of the implementation site characteristics in the design and optimal exploitation of a PV system, because wetting and atmospheric gaseous and particulate pollution can strongly distort the incident solar radiation. Thus, in addition to the *efficiency of the solar module*, the *tracking efficiency*, the *clouds crossing factor* and the *solar radiation loss coefficient into the cloudless atmosphere* play an important role in the final energy production. This paper studies the experimental evaluation of the *clouds crossing factor* for a mountain area. The data are gathered for the Braşov area but, based on the solar charts; the results can be extended on most of the Meridional Carpathian inhabited areas.

Key words: clouds crossing factor, diffuse solar radiation, direct solar radiation, PV materials

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