

Corrected Simple Solar Irradiance Model for Mono-Si Photovoltaic Potential Estimation

L. Neamț* and Mirela Coman**

* North University /Department of Electrical, Electronic and Computer Engineering, Baia Mare, Romania

** North University /Department of Preparation, Geology and Environmental Engineering, Baia Mare, Romania

Abstract—Photovoltaic (PV) systems are important alternative for fossil fuel resources conversion. The minimum environmental impact, maintenance, the availability of solar energy, and the technological level achieved are some advantages of conversion from solar to electrical energy. Calculation of PV potential is, these days, mainly tributary to solar maps or databases. A simplified model, with general application and having a comparable accuracy with above mentioned methods, is a useful tool for designers. The input data for corrected method are the geographical parameters of the site and the temperatures recorded by meteorological stations; the solar radiation data are not needed (these data are not usual data recorded by meteorological stations). At the end of the work the PV potential for Baia Mare City was determined using temperature data recorded by North University Meteorological Station.

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