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DIMENSIONING AND EFFICIENCY EVALUATION OF HYBRID SOLAR SYSTEMS FOR ENERGY PRODUCTION

ABSTRACT

Nowadays hybrid panels for joint production of thermal and electrical energy are available on the market. The main contribution of this work is to evaluate the performances of hybrid systems and to determine the field of application. Mathematical models of panels are considered to evaluate thermal and electrical behaviour of the problem. A software produced by the authors is shown that calculates the energy production of these devices in several operating situations; a comparison to that of photovoltaic and thermal systems is performed. Moreover, the economic validity of a such investment is evaluated. Finally a simplified criterion has been developed to calculate the best subdivision of the available deployment surface among thermal, photovoltaic, and hybrid panels.

KEYWORDS

[efficiency](#), [solar](#), [energy](#), [photovoltaic](#), [thermal](#), [hybrid](#), [generation](#), [simulation](#)

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