

Grid Tied Photovoltaic Power on School Roof

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Abstract : To universalize the adoption of sustainable energy, the R.O.C. government encourages public buildings to introduce the PV power station on the building roof, whereas most old buildings did not include the considerations of photovoltaic (PV) power facilities in the design phase. Several factors affect the PV electricity output, the temperature is the key one, different PV technologies have different temperature coefficients. Other factors like PV panel azimuth, panel inclination from the horizontal plane, and row to row distance of PV arrays, mix up at the beginning of system design. The goal of this work is to maximize the annual energy output of a roof mount PV system. Tables to simplify the design work are developed; the results can be used for engineering project quote directly.

Keywords : optimal inclination, array azimuth, annual output

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