

Characteristics of Different Solar PV Modules under Partial Shading

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Abstract : Partial shadowing is one of the problems that are always faced in terrestrial applications of solar photovoltaic (PV). The effects of partial shadow on the energy yield of conventional mono-crystalline and multi-crystalline PV modules have been researched for a long time. With deployment of new thin-film solar PV modules in the market, it is important to understand the performance of new PV modules operating under the partial shadow in the tropical zone. This paper addresses the impacts of different partial shadowing on the operating characteristics of four different types of solar PV modules that include multi-crystalline, amorphous thin-film, CdTe thin-film and CIGS thin-film PV modules.

Keywords : partial shade, CdTe, CIGS, multi-crystalline (mc-Si), amorphous silicon (a-Si), bypass diode

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