









bifacial module produces 13% energy more than the mono-facial module and this value is within the range of the gain energy that other researchers have experimentally found, as presented in the Introduction. This technology is very promising, because it allows increasing the power density of the PV plants, i.e. the amount of power produced for square meter of occupied land, which is a very important parameter to consider. Nevertheless, nowadays, several issues are still open, and they can become research opportunities. For example, the effect of the shading on the rear side is not solved, differently from the same issue on the front side. The electronic equipment to acquire separately the electrical variables of both front and rear side is not available. The typical defects of the rear side are not known. The not destructive techniques, usually applied to detect defects on the front side of the PV module (thermography, photo-luminescence, electro-luminescence), cannot be applied in the same way. In summary, most of these issues have been studied for the single-side PV module, by using the mathematical or circuital or thermal model of the PV module. Therefore, also the study of the issues of the double-side PV module can be based on a suitable model, and the proposed model is resulted effective.

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