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(57) Abstract :

ABSTARCT: Reconfiguration is nothing but rearranging the PV array connection of the PV system without changing the physical location of the panels. For this rearrangement relay switching circuit has been used in between the array it is also called as switching matrix circuit. All the PV panels are connected over the switching circuit and it is controlled by an external controller. That controller is programmed with the switching algorithm in order to operate the switching circuit by comparing the row"s current of an array during partial shading condition. In couple matching algorithm the PV array has separated as two different parts named as male and female part and then it is reconfigured. The reconfiguration is done in such a way that male weaker is paired with female healthier and female weaker is paired with male healthier in order to achieve healthy (enhanced) output. In current injection method power output of the PV array is enhanced by injecting the current in the row of shaded panels. In the current injection method the injected current will be the difference between the row"s maximum and corresponding row"s current. In the proposed work couple matching and current injection based PV circuit is used to enhance the output power as well as to reduce the battery Wh rating. Batteries are used for current injection. The proposed method also has an advantage of increase in life time of the battery because of the reduced Wh requirement.

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