عنوان مقاله:
Designing and simulating of solar power plant by Fuzzy-BBBC MPPT and multilevel hysteresis controller

محل انتشار:
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خلاصه مقاله:
In order to use productivity power of the solar plant, utilizing the inverter for changing the DC voltage to the AC is necessary. Multilevel inverters are highly regarded in the high power industry and also new plans have been provided for applying in the reactive power. Also utilizing the multilevel cascaded H-bridge inverter, several PV arrays can be connected together as motivate to increase the power quality and reduce the switching frequency and the filter size. To reach the maximum power point a DC/DC converter is placed between the inverter and solar area. On the other hand, the maximum power point tracking causes to increase the received power without need to replace the solar array. Hysteresis modulation has a very wide application for the power inverters. This application is arising from the very fast dynamic response and the reference capability of the high frequency range. In this paper, the multilevel and modified hysteresis control methods are simulated and compared. The results of the two methods express increasing the main component of the current and reducing THD in the improved method. Then general simulation of the solar power plant connected to the DC/DC SEPIC converter with maximum power point tracking capability by Fuzzy-BBBC algorithm and the five-level cascaded H-bridge inverter with fully sinusoidal output and controlled by the multilevel improved hysteresis method is presented.

کلمات کلیدی:
Power converter, Multilevel inverter, Hysteresis control, Fuzzy- BBBC, MPPT

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