**MPPT of PV system under diverse partial shading conditions through hybrid crow search artificial bee colony**

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**Abstract** – *Photovoltaic (PV) system presents a key role in the generation of electricity these days due to their eco-friendly nature. However, on the account of its intermittent nature, PV systems face numerous challenges to track the global maxima peak power (GMPP). To accomplish those problems various conventional methods are used although these methods have oscillation around global maxima peak power (GMPP) and easily falls into local maxima peak power (LMPP). To avoid those problems this paper presented various methods such as crow search artificial bee colony (CSABC), artificial bee colony (ABC), and perturb and observe (P&O). The Proposed hybrid SABC provides superior performance among the other two methods in terms of efficiency moreover, the proposed CSABC has been developed in MATLAB/ SIMULINK. The efficiency of the proposed method under partial shading conditions (PSC) is 99.44 % and the other two methods such as ABC, P&O are 98.02% and 87.73%.*

Keywords: Photovoltaic (PV) system; crow search artificial bee colony (CSABC); artificial bee colony (ABC); maximum power point tracking (MPPT); partial shading conditions (PSC).