# Maximum Power Point Tracking Based on Remora Algorithm under PSC

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**Abstract:** Full or partial shading conditions have a significant impact on power generation capacity and can lead to losses. It is necessary to get the maximum power that they can generate by reducing energy losses as much as possible; the power-voltage characteristic curve of PVG under the PSC (Partial Shading Condition) leads to multips power peak, the GMPP (Global Maximum Power Point) represents the peak with the higest value, the others are called LMPPs (Local Maximum Power Points). To extract the maximum power from a set of PV panels, an electronic controller (DC-DC converter) is incorporated between the PVG and the load, its main role is the continuous monitoring at all times of the point of MPP.

This paper proposes a bio-inspired metaheuristic algorithm named the Remora Optimization Algorithm (ROA), used to get the GMPP of the PV panel under the PSC. In this paper, to show the feasibility of the ROA, we propose two configurations, first, we have five PV panels connected in series as a source and resistance as a load, this configuration will be tested under three scenarios (without shading, under weak or strong shading), second, we will replace DC load by AC load (pumping system), this configuration will be tested under strong partial shading.

**Keywords:** *Remora algorithm; PV generator; global MPP; local MPP; DC load; AC load.*

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