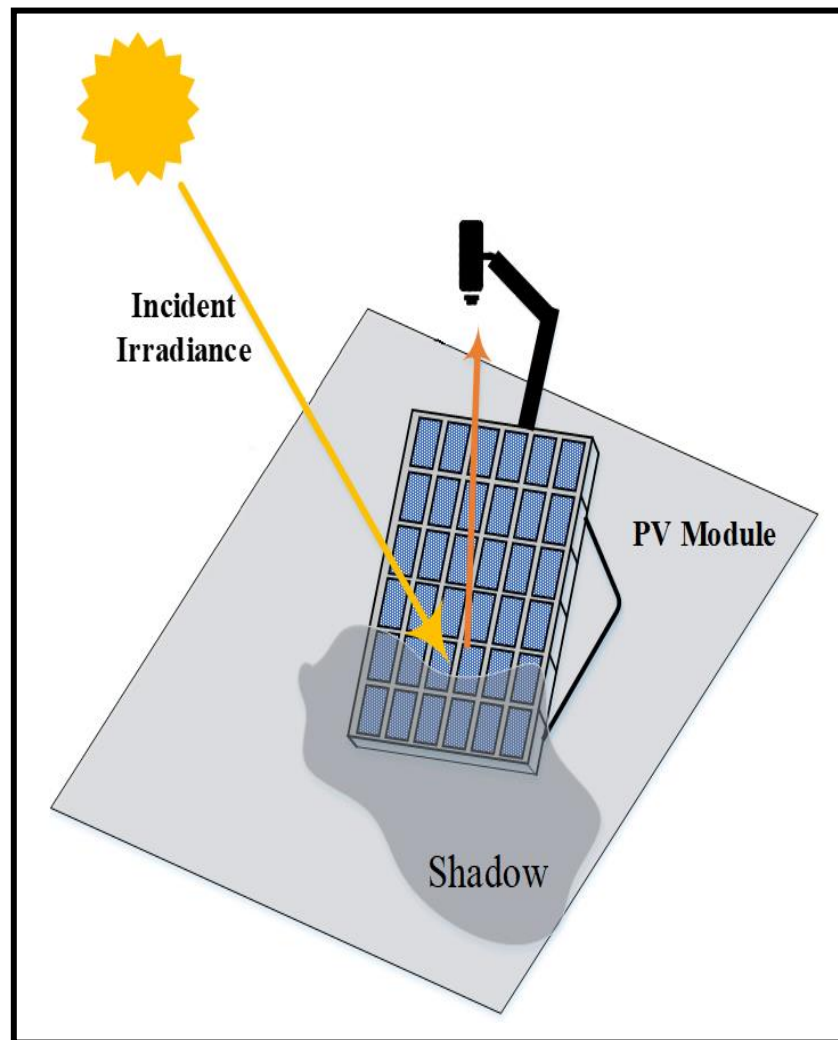# The Next-Generation Technology for Power Optimizers and Micro-Inverters

Problem

While Power optimizers and Micro-inverters are effective in reducing shading losses between different PV modules, they are ineffective in reducing shading losses when shading occurs within an individual PV module.

More than 60% of power loss could occur when shading covers part of a PV module even with the presence of power optimizers.

Multiple power peaks could appear when part of a PV module is shaded where power optimizers could operate at the lower peak losing significant power.

Solution

A camera is integrated with power optimizers to ensure operating at the highest power peak.

Images are utilized to locate and estimate shading which are then used to calculate the operating point at the highest power peak.

A potential for power gain as high as 60% during partial shading within a PV module.