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(54) **IN-SITU I-V MEASUREMENT OF A MODULE IN A PV ARRAY**

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(57) **ABSTRACT**

In one respect, disclosed is an in-situ current-voltage (I-V) measurement device for photovoltaic modules in a photovoltaic array, comprising a variable load, wherein the variable load is configured to be connected in parallel with a module, wherein the module is connected in series with at least one other module in a string, such that the module supplies current simultaneously to the string and to the variable load, and wherein the variable load is controlled by a controller, and wherein the controller is configured to shift an I-V operating point of the module, based at least upon varying the variable load.