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Showcasing research from Prof. Xiaojing Hao's laboratory, University of New South Wales, Sydney, Australia.

A non-destructive UV Raman characterisation platform to enable insight into the mechanism of reversible ultraviolet-induced degradation (UVID) in TOPCon solar cells

Scientia Prof. Xiaojing Hao's research group at UNSW Sydney focus on developing efficient, durable, and cost-effective solar PV technologies. In this work, they addressed the challenge of widely concerned UV-induced degradation (UVID) in Si solar cells by developing a novel characterisation platform. Their non-destructive characterisation can *in situ* monitor the microscopic material transformations during the UVID and recovery process, effectively unveiling the underlying mechanism of the reversible UVID in Si solar cells. This work provides guidance for the development of international testing protocols and supports the creation of effective UVID-mitigating strategies.

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As featured in:



See Ziheng Liu, Xiaojing Hao *et al.*, *Energy Environ. Sci.*, 2026, **19**, 1148.