

The Institute for Photovoltaics (ipv) at the University of Stuttgart adopts LayTec's InspiRe and PearL metrology to advance perovskite solar cell research

Berlin, Germany – January 14, 2026 – The Institute for Photovoltaics has selected LayTec's cutting-edge metrology solutions, InspiRe and PearL, to optically monitor perovskite thin-film growth in real time, which will be supplied in its novel cluster deposition tool. By combining thickness analysis (InspiRe) with bandgap monitoring (PearL), researchers can now observe how perovskite layers form in real time, opening new possibilities for more efficient and stable solar cells.

ipv is advancing renewable energy through cutting-edge research in solar cell materials; with a strong focus on next-generation perovskite technologies and sustainable power solutions, the institute combines scientific excellence with practical innovation to shape the future of clean energy.

Perovskite materials are at the forefront of next-generation photovoltaics, offering remarkable efficiency potential at low production costs. However, their complex crystallization and stability challenges demand advanced monitoring techniques. ipv is pioneering evaporation-based perovskite solar cell research, developing stable, reproducible, and scalable thin films for next-generation photovoltaics. The integration of LayTec's in-situ reflectance and spectral photoluminescence systems enable the researchers to track and optimize perovskite formation during deposition.

"LayTec and their flexibility in integrating highly sophisticated metrology systems is the ideal supplier for optimal measuring performance," says Prof. Saliba, head and chair holder of ipv. "We greatly value our collaborations with leading research institutes and our ability to contribute to research at the forefront of the field," adds Volker Blank, CEO of LayTec.

Novel measurement data provides crucial insights into perovskite growth mechanisms, paving the way for more stable, efficient, and commercially scalable solar technologies.

About The Institute for Photovoltaics:

The Institute for Photovoltaics (ipv) is a premier research institution for renewable energy research, dedicated to advancing science and technology for a sustainable future. From cutting-edge perovskite and tandem solar cells to scalable manufacturing processes, ipv's work bridges fundamental science and real-world applications. The institute collaborates with industry leaders and international research networks to accelerate the transition to renewable energy.



University of Stuttgart
Institute for Photovoltaics



About LayTec:

LayTec is a Berlin-based company which designs and manufactures integrated in-situ and in-line optical metrology solutions for process control in semiconductor and photovoltaic production. LayTec provides metrology systems for non-destructive monitoring for critical film properties, including thickness, color, band gap, sheet resistance, composition and surface roughness. These systems cover a broad spectrum of deposition and film formation techniques, supporting both academic research and high-volume industrial production. With over 3,500 systems installed worldwide, LayTec supports both research and mass production environments and offers a global service network to ensure reliable performance and customer success.



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