

SESSION 1.3 ADVANCED MATERIALS FOR PHOTOVOLTAIC APPLICATIONS

Invited speech – GRAPHENE AND RELATED 2D MATERIALS: A WINNING STRATEGY FOR ENHANCED EFFICIENCY AND STABILITY IN PEROVSKITE PHOTOVOLTAICS

In this work, we proposed the successful application of graphene and related 2D materials in the field of perovskite solar cells (PSCs) by engineering the standard mesoscopic n-i-p structure. The use of 2D materials has the dual role in improving both the stability and the overall efficiency of the proposed 2D-engineered PSC structure with respect to existing devices. The easy and successfully demonstrated device scaling-up allowed the realization of efficient large area graphene/perovskite modules.

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