



Outdoor Operational Stability of Indium-Free Flexible Polymer Solar Modules Over 1 Year Studied in India, Holland, and Denmark

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Outdoor Operational Stability of Indium-free Polymer Solar Cell Modules Investigated over 1 year

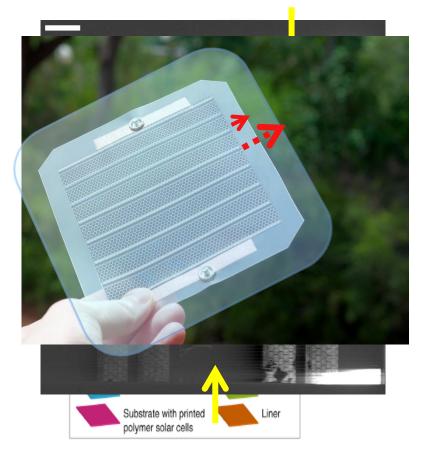
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In Summary



Hösel, M., Søndergaard, R. R., Jørgensen, M. and Krebs, F. C. (2013), Adv. Eng. Mater., 15: 1068–1075.

Angmo, Dechan, et al. Adv. Eng. Mat. (2014). In Press

- Low-cost encapsulation method is demonstrated.
- The method is roll-to-roll compatible.
- Decay in photovoltaic is due to localized defects
 - the edge cross, contacts, and uneven adhesive thickness → O₂ and H₂O infiltration
 - results in PEDOT:PSS degradation/delamination
 - ➤ Photoxidation of photoactive polymer → not the main cause of degradation
- Simple design changes → performance is dramatically enhanced (MPP_{t=0} equal MPP_{t=1 year})
 - Defects due to edges and uneven adhesive thickness is eliminated
 - Defects due to contacting method persist

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