

Following the 2nd release of the "Emerging PV reports," the best achievements in the performance of emerging photovoltaic devices in diverse emerging photovoltaic research subjects are summarized, as reported in peer-reviewed articles in academic journals since August 2021. ... Device Performance of Emerging Photovoltaic Materials (Version ...

Following the 3rd release of the "Emerging PV reports", the best achievements in the performance of emerging photovoltaic (e-PV) devices in diverse e-PV research subjects are summarized, as reported in peer-reviewed articles in academic journals since August 2022. Updated graphs, tables, and analyses are provided with several performance parameters, such as power ...

It is demonstrated that the fine-modification of the flexible side chains of NFAs can yield 17% PCE for OPV cells, suggesting that optimization of the chemical structures of the OPV materials can ...

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Flexible PVs: Best performance parameters as a function of absorber (or bottom junction absorber in case of tandem devices) bandgap energy for various photovoltaic technologies: power conversion ...

"Reporting Device Efficiency of Emerging PV Materials" is planned as an open access database following the FAIR principles. [37] This implies that the data must be findable, accessible, inter-operable and reusable. A major concern is of course the quality of the data.

Emerging photovoltaic (e-PV) technologies are arguably the main focus of the research community in the PV field as they hold the promise for providing cheap and scalable technologies for the photovoltaic commodity market as well as new and versatile applications such as flexible, transparent, and integrated photovoltaics.

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In summary, we report a substantial update in the present version of the emerging photovoltaic reports with 150 new cell entries out of 588 (26% update quote). The most significant achievements in each category have been highlighted and new figures of merits for the parameterization of device performance and research trends have been introduced.

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Most photostable emerging PVs for each technology: stability test energy yield for a) 200 h and d) 1000 h as a function of bandgap energy, final power conversion efficiency after b) 200 h and e ...

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The rise of new and emerging PV technologies, mainly during the last decade, resulting in numerous materials research and development diversifications, have even increased the necessity to conduct and resolve these discussions. Emerging photovoltaic technologies include but are not limited to devices like organic (OPV), dye sensitized (DSSCs)

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abstract = "Emerging photovoltaics (PVs) focus on a variety of applications complementing large scale electricity generation. Organic, dye-sensitized, and some perovskite solar cells are considered in building integration, greenhouses, wearable, and indoor applications, thereby motivating research on flexible, transparent, semitransparent, and multi-junction PVs.

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Emerging-PV - an online database for researchers in emerging photovoltaic technologies. Our initiative also summarizes the data in yearly surveys: "The Emerging-PV Reports", published every December in the journal *Advanced Energy Materials*. See Version 1 (2020), Version 2 (2021), Version 3 (2022), and Version 4 (2023)

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The main objective of the emerging photovoltaics reports (ePVr) survey series is to provide the photovoltaics (PVs) research community with a resource for the reproduction of best ...

Focused on the absorber materials, parametrized through the effective device bandgap, the absolute record efficiencies were shown to be led by the PSCs in the widest range of ...

"Reporting Device Efficiency of Emerging PV Materials" is planned as an open access database following the FAIR principles. ... The performance of flexible PV devices in Figure 5 seems to mirror the high-efficiency clusters for each technology in Figure 3. Obviously, it makes sense to take the most consolidated device designs when targeting ...

DOI: 10.1002/aenm.202002774 Corpus ID: 229453477; Device Performance of Emerging Photovoltaic Materials (Version 1) @article{Almora2020DevicePO, title={Device Performance of Emerging Photovoltaic Materials (Version 1)}, author={Osbel Almora and Derya Baran and Guillermo C. Bazan and Christian Berger and Carlos I. Cabrera and Kylie R. Catchpole and ...

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Updated graphs, tables, and analyses are provided with several performance parameters, e.g., power conversion efficiency, open-circuit voltage, short-circuit current density, fill factor, light ...

The 4th installment of the "Emerging PV reports" discusses the "PV emergence" classification with respect to the "PV technology generations" and "PV research waves" and highlights the latest ...

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