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High-Efficiency Crystalline Silicon Solar Cells

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Message from the Guest Editors

Photovoltaic solar energy provides humankind with a valuable instrument to develop a sustainable, globally prosperous, and environmentally friendly society. High-efficiency cell structures help to reduce the costs of photovoltaic energy generation in two ways: (i) by increasing the efficiency—the power output per area of used silicon; (ii) by allowing the use of thinner wafers, achieving the same level or even improved efficiency. However, four important aspects are associated with high-efficiency crystalline silicon solar cells: the surface passivation, metal contacts, material quality and cell structure.

Deadline for manuscript submissions:
closed (20 September 2020)

This Special Issue looks for participations in the high-efficiency crystalline silicon solar cells under enhanced scientific and multidisciplinary knowledge to improve performance and deployment for PV energy security. Topics of interest include but are not limited to:

- Silicon heterojunction;
- Passivated emitter rear contact (PERC, PERT, PERT);
- Carrier selective contact;
- Poly-Si application to solar cells (TopCon, POLO, etc.);
- Interdigitated back contact (IBC);
- Hybrid back contact;
- Perovskite/silicon tandem;
- III-V/silicon tandem.

mdpi.com/si/37855

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Message from the Editor-in-Chief

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Journal Rank: CiteScore - Q1 (Control and Optimization)

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