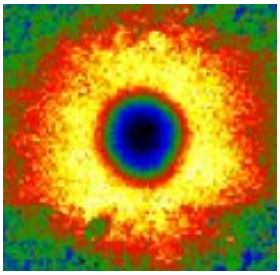

Contribution ID: **15** Type: **Lecture**

Advanced Solar Cells 2: Hitting the efficiency roof top of single junction c-Si tech: Cu contacted bifacial XBC technology

Wednesday, 5 June 2024 08:30 (50 minutes)

As the photovoltaic (PV) industry evolves beyond the dominance of TOPCon technology, it will enter the bifacial XBC (back-contact) era in 4-5 years from now, achieving new efficiency heights. PV cells and modules are projected to reach efficiency ceilings of 27% and 25%, respectively, marking a significant leap in performance standards. Bifacial XBC technology, which optimizes energy capture from both sides of the solar panel, is set to become the predominant technology, maintaining its leadership for an extended period before tandem technologies emerge in the market. A crucial development in this transition is the replacement of silver (Ag) with copper (Cu) screen printing, which significantly reduces costs and improves sustainability. The adoption of Cu screen printing is essential for making high-efficiency solar cells more economically viable and environmentally friendly. AIKO and ISC Konstanz are at the forefront of these advancements, organizing the bifacial XBC Workshop bifiPV2024 in China on November 27-28. This event will bring together industry experts and researchers to explore the latest developments and future trajectories of bifacial XBC technology. The workshop aims to foster collaboration, drive innovation, and accelerate the widespread adoption of this cutting-edge technology. As bifacial XBC technology will become the new industry standard, it will solidify solar energy's role as a key component of sustainable energy solutions, pushing the boundaries of efficiency and reliability in the PV sector.

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