

PHYSICS & ASTRONOMY SEMINAR

“CdTe PV: Innovation through Material Breakthroughs”

Presented by:
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Abstract: Over the past two decades, photovoltaics (PV) have successfully transitioned from an expensive, niche product into a low cost, high volume renewable energy source that is cost competitive with fossil fuel energy sources. At present, the PV market is dominated by crystalline Silicon-based modules. First Solar, the largest PV company in the United States, with a large manufacturing footprint in the Midwest, uses a unique, thin film, CdTe-based PV technology that is inherently low cost and requires much less energy and water to produce. Historically, the efficiency of CdTe PV has traditionally lagged Si PV. Over the past decade, fundamental Materials and Chemistry breakthroughs in CdTe PV have closed the efficiency gap with Si PV. Moreover, recent advancements in CdTe PV have shown great promise towards further increases in efficiency, thereby helping to maintain CdTe as a low cost, high efficiency PV product for the future.

Bio: Bill Huber, the Head of Advanced Research at First Solar, leads a multidisciplinary team focused on performance improvements for thin-film PV. Prior to joining First Solar, Bill was a Principal Scientist at GE Global Research, in Niskayuna, NY. While at GE, Bill made fundamental advancements in a wide range of disciplines, such as medical imaging, surgical navigation, flexible electronics and, more recently, CdTe-based PV. Before joining GE, Bill was a NRC Postdoctoral Fellow at NIST in Gaithersburg, MD, investigating single electron tunneling devices. He received his Ph.D. from the University of Minnesota in Low Temperature, Solid State Physics.

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