

Highly Concentrated Photo Voltaic using Multi-Junction Concentrator Cell

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Abstract : High concentration photovoltaic promises a more efficient, higher power output than traditional photovoltaic modules. One of the driving forces of this high system efficiency has been the continuous improvement of III-V multi-junction solar cell efficiencies. Multi-junction solar cells built from III-V semiconductors are being evaluated globally in concentrated photovoltaic systems designed to supplement electricity generation for utility companies. The high efficiency of this III-V multi-junction concentrator cells, with demonstrated efficiency over 40 percent since 2006, strongly reduces the cost of concentrated photovoltaic systems, and makes III-V multi-junction cells the technology of choice for most concentrator systems today.

Keywords : cost of multi-junction solar cell, efficiency, photovoltaic systems, reliability

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