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Title:	**Four Terminal, Reflective Tandem Cells for Silicon Efficiency Greater than 30%**
Author(s):	M. Stocks, E. Franklin, V. Everett, M. Berry, K.J. Weber, E. Thomsen, A. Blakers
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Abstract/Summary:

Tandem cell approaches offer the opportunity to increase silicon cell efficiency. Four terminal approaches provide the flexibility to freely choose the bandgap of the top cell without compromising the system efficiency. By using the top cell as a reflector of sub-bandgap light, a simple tandem approach has been demonstrated that has the potential for strong system efficiencies. Efficiency of 27.8% was achieved in a system comprising a 24.6% GaAs top cell and 20.3% bottom cell. Improvements in either the GaAs cell or the Si cell could increase efficiency beyond 30% with combined improvements leading to a realistic potential of 34%. Combination with single axis roll trackers offers potential for reflective tandems to be practicable.

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