



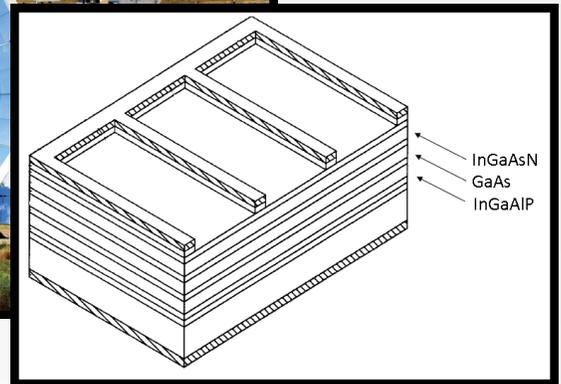
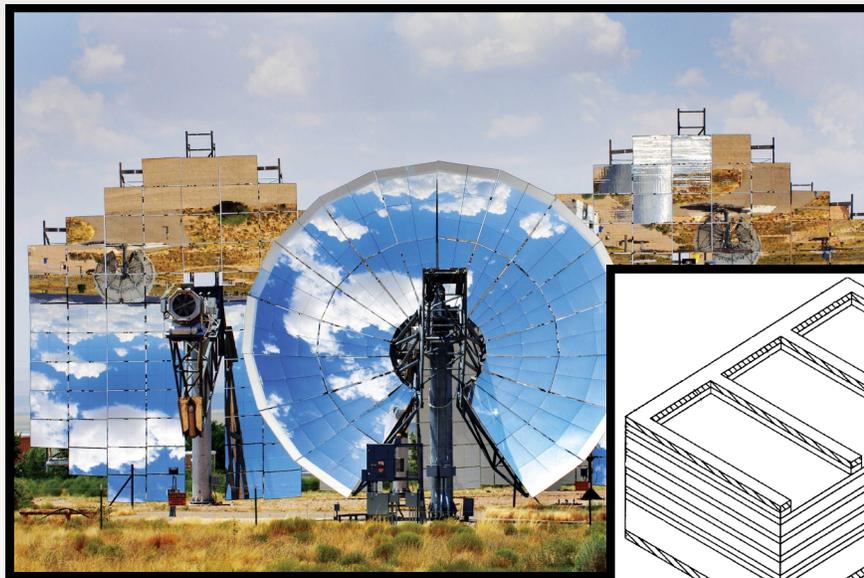
TECHNOLOGY READINESS LEVEL: 3

PATENT # 5,944,913

CRITICAL FUNCTIONS AND CONCEPTS HAVE BEEN PROVEN IN A LAB SETTING.

TECHNOLOGY SUMMARY

Single junction solar cells have limited efficiency and fail to extract maximum energy from photons outside of a specific spectral region. Higher efficiency and optical to electrical energy conversion is achieved by stacking semiconductor p-n junction layers to capture energy from all spectral regions. This Sandia invention proposes growing layers of different semiconductor alloys on a semiconductor substrate to minimize band-gap energy loss providing a high efficiency multiple-junction solar cell array.



POTENTIAL APPLICATIONS

- Satellite space power systems
- Military and commercial solar cells
- Concentrated solar power

TECHNOLOGICAL BENEFITS

- Reduces satellite mass and cell array sizes
- Reduces launch and maintenance costs
- Increases satellite mission lifetime
- High efficiency

TECHNOLOGY INQUIRY?

For more information or licensing opportunities contact us at

ip@sandia.gov

Refer to SD # 6087

or visit

<https://ip.sandia.gov>