



Cooperative Research Between NREL and Ampulse on III-V PV

Cooperative Research and Development Final Report

CRADA Number: CRD-12-464

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In accordance with Requirements set forth in Article XI.A(3) of the CRADA document, this document is the final CRADA report, including a list of Subject Inventions, to be forwarded to the Office of Science and Technical Information as part of the commitment to the public to demonstrate results of federally funded research.

CRADA Number: CRD-12-464

CRADA Title: Cooperative research between NREL and Ampulse on III-V PV

Parties to the Agreement: Ampulse Corporation

Joint Work Statement Funding Table showing DOE commitment:

Estimated Costs	NREL Shared Resources
Year 1	\$ 38,590.00
Year 2	\$ 00.00
Year 3	\$ 00.00
TOTALS	\$ 38,590.00

Abstract of CRADA work:

NREL and Ampulse will engage in cooperative research to develop III-V photovoltaics on alternative substrates.

Summary of Research Results:

- Developed high-quality molecular-beam epitaxy grown III-V solar cells using both front/back and all-front contact schemes. Front contact schemes are necessary for eventual use in III-V cells grown on insulating substrates.
- Developed selective etching of arsenide-based alloys.
- Performed initial growth and characterization of III-V on template/oxide substrates.

Subject Inventions Listing: N/A

Report Date: 2/5/13

Responsible Technical Contact at Alliance/NREL: Aaron Ptak

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