



Evaluation of Ion Damage in Solar Cells

Cooperative Research and Development Final Report

CRADA Number: CRD-07-00234

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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-07-00234

CRADA Title: Evaluation of Ion Damage in Solar Cells

Parties to the Agreement: Greenville College

Joint Work Statement Funding Table showing DOE commitment:

Estimated Costs	NREL Shared Resources
Year 1	\$ 100,000.00
Year 2	\$ 00.00
Year 3	\$ 00.00
TOTALS	\$ 100,000.00

Abstract of CRADA work:

Equipment will be used by Greenville College to enhance a previously established collaboration in the area of radiation hardness of solar cells, using Greenville’s unique Ion Accelerator. Equipment will be located at the E. College Avenue site.

Summary of Research Results:

The CRADA agreement included loaning excess equipment to Greenville College to help test low energy ion damage to solar cells. An undergraduate physics student, Beau A. Meredith, under the guidance of Prof. Hugh Siefken, did a senior thesis on the topic and published his work at Greenville College titled: “The Effects of 3.0 keV Proton Irradiation on the CGS/c-Si Tandem Solar Cell and the Effects of 4.5 keV H2+ Irradiation on the CGS Solar Cell.” This work was also presented at the 15th Annual *Argonne Symposium for Undergraduates in Science, Engineering and Mathematics*, November 5-6, 2004 at the Argonne National Laboratory.

Subject Inventions Listing:

No inventions were disclosed under this CRADA.

Report Date: 12/4/12

Responsible Technical Contact at Alliance/NREL: David L. Young

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