

Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

The Effects of Extreme Cold on Polycrystalline Photovoltaic Solar Cells ROBERT STIFFLER, BILLY CIMORELLI, SETH FASIG, EVAN HIRSCHMUGL, PAUL QUINN, Kutztown University of Pennsylvania — This project will examine how solar cells perform under conditions of extreme cold. Polycrystalline photovoltaic solar cells were tested to get their baseline currents and voltages, producing the standard IV curve. The cells were then submerged in liquid nitrogen for set intervals of time. Once removed from the nitrogen, they were allowed to reach room temperature and sit overnight. Each cell was then retested to get new currents and voltages, producing a new IV curve. The experiments produced results showing that the submersion in liquid nitrogen actually improved their performance. This implies that under certain conditions, exposure to extreme cold could actually enhance the performance of polycrystalline photovoltaic solar cells.

Paul Quinn
Kutztown University of Pennsylvania

Date submitted: 15 Nov 2013

Electronic form version 1.4