

Abstract Submitted  
for the CAL13 Meeting of  
The American Physical Society

**Clean Water Collection** DANIEL RYAN, JEREMY QUALLS, Sonoma State University — An estimated 780 million people lack access to an improved water source and more than 3 million die every year due to water related diseases. This talk takes a hard look at new emerging air to water collection technologies and development of new water collection devices at SSU. We are attempting to develop a solar refrigeration system based on a single adsorption cycle, utilizing methanol and activated carbon. Our calculations predict that a square meter solar adsorption collection system should be able to produce 1-5 liters of water per night. The system would be able to serve as a point source for clean water and require little to no maintenance at relative low cost. Current prototypes will be discussed as well as progress that we have made towards maximizing the condensation stage of water collection. Ultimately, the design must be robust, scalable, and environmentally friendly.

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Date submitted: 07 Oct 2013

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