Registration Form

TEAM INFORMATION

Team Name/Project Title: Sun Trackers

Department: Electrical Engineering

Faculty Advisor(s): Brian Atkinson

Primary Team Contact, email: Joshua Jenkins – joshua.jenkins@ucdenver.edu

Team Members (first name, last name, and e-mail): Joshua Jenkins, Christian Zubia, and Laura Lucas

PROJECT INFORMATION

Description:

Dual axis dynamic solar tracking system.

Abstract:

The problem to be solved is to increase the power generated from a fixed position solar panel due to the lack of direct sunlight throughout the day. Panel orientation with respect to the sun is one of the most important aspects for optimizing the power generated from a solar panel into a usable form of electricity. In order to receive maximum power output, the solar panel must be oriented perpendicular to the sun’s ray. Inefficiencies from fixed solar panels occur as the incident angle of the sun varies throughout the day. To resolve this problem, we are going to design a dual axis solar panel consisting of a Raspberry Pi microprocessor with GPS that will accurately track the position of the sun and orient the panel to the optimal angle for maximum power output. To reposition the solar panel, two servo-motors will be employed. To allow the power output to be at its maximum value, each electronic component used will have to have a minimal consumption of power.