

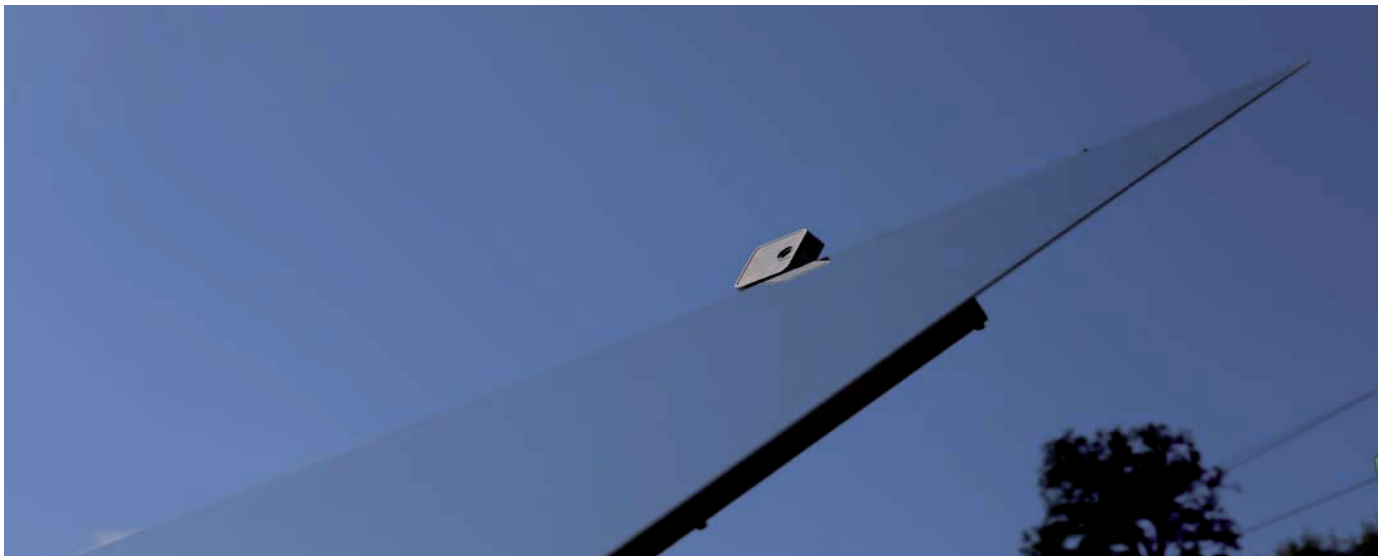


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Research Alliance

SHORT: SCALABE HELIOSTAT CALIBRATION SYSTEM



TECHNOLOGY

- Based on low-cost camera (mobile like) attached to each heliostat.
- Automatic procedure takes pictures of know targets in the field to identify heliostat calibration parameters.
- IR targets allow for daylight or night heliostat calibration.

MAIN FEATURES

- SHORT calibrates the actual kinematic model of each heliostat.
- Automatic, fast and simultaneous heliostat calibration.
- Easy, robust and accurate for any heliostat field
- Reduces heliostat stability requirements as well as assembly, deployment, and start-up costs.

BUSINESS MODEL

- SHORT method patented (PCT/ES2016/070681- WO 2017/055663).
- Searching for non-exclusive patent licensing.
- Other approaches are welcome.





SHORT: SCALABE HELIOSTAT CALIBRATION SYSTEM

CURRENT SOLUTION

1 Embedded solution:
filter, camera, processor
and communications.

2 Highly flexible software
architecture with tracea-
bility of operations.

3 Real time motion
control of heliostats
also available.



READINESS LEVEL

SHORT system validated in PSA (Plataforma Solar de Almeria) from 2016 to 2017.

SHORT embedded solution validated in PSA during 2018.



TEST RESULTS

- SHORT experimental error in movement prediction below 0.25 mrad (RMS).
- **Heliostat calibration in one hour, complete solar field in 3-4 hours.**

