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Andraka

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(54) **CONCENTRATION SOLAR POWER OPTIMIZATION SYSTEM AND METHOD OF USING SAME**

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See application file for complete search history.

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(57) **ABSTRACT**

A system and method for optimizing at least one mirror of at least one CSP system is provided. The system has a screen for displaying light patterns for reflection by the mirror, a camera for receiving a reflection of the light patterns from the mirror, and a solar characterization tool. The solar characterization tool has a characterizing unit for determining at least one mirror parameter of the mirror based on an initial position of the camera and the screen, and a refinement unit for refining the determined parameter(s) based on an adjusted position of the camera and screen whereby the mirror is characterized. The system may also be provided with a solar alignment tool for comparing at least one mirror parameter of the mirror to a design geometry whereby an alignment error is defined, and at least one alignment unit for adjusting the mirror to reduce the alignment error.

37 Claims, 12 Drawing Sheets

