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(54) **TRACKING HEAT FLUX SENSORS FOR CONCENTRATING SOLAR APPLICATIONS**

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See application file for complete search history.

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(57) **ABSTRACT**

Innovative tracking heat flux sensors located at or near the solar collector's focus for centering the concentrated image on a receiver assembly. With flux sensors mounted near a receiver's aperture, the flux gradient near the focus of a dish or trough collector can be used to precisely position the focused solar flux on the receiver. The heat flux sensors comprise two closely-coupled thermocouple junctions with opposing electrical polarity that are separated by a thermal resistor. This arrangement creates an electrical signal proportional to heat flux intensity, and largely independent of temperature. The sensors are thermally grounded to allow a temperature difference to develop across the thermal resistor, and are cooled by a heat sink to maintain an acceptable operating temperature.

31 Claims, 18 Drawing Sheets

