

# IMPROVED METHOD TO MEASURE GLARE AND REFLECTED SOLAR IRRADIANCE

US Pat. No.: 9,103,719

Technology Readiness Level: 9

*Technology proven through successful operations*

Sandia has developed a cheap, efficient, and accurate method of measuring the irradiance from solar reflections using a digital camera. Measurements of reflected solar irradiance is of great importance to industry, military, and government agencies to assess potential impacts of glint and glare from growing numbers of solar power installations around the world. In addition, this measurement technique can be used to monitor and maintain system performance for concentrating solar power applications.

This disclosure also covers the development of a web-based tool that allows users to upload images of the sun and reflection to automatically calculate the irradiance distributions and the potential impact of glare. Current methods use moving wands which are more expensive and require more complex machinery and operating procedures.



## TECHNICAL BENEFITS

- Significantly cheaper, faster, and easier to implement than current methods for measuring solar irradiance
- Measurement technique can also be used to help monitor and maintain system performance for concentrating solar power applications
- Can be coupled with a Sandia-developed web-based tool that will calculate the irradiance distributions and the potential impact of glare

## INDUSTRIES & APPLICATIONS

- Concentrated solar power
- Electric utility
- Photovoltaics
- Public safety