Technology Description

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.

Technological 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

Potential Applications

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

Contact Us

For more information, please contact:

Sandia National Laboratories
ip@sandia.gov
Refer to SD#11722
Or to learn more, please visit our website at: https://ip.sandia.gov