



Black Photon
Instruments

 **Fraunhofer**
ISE

Press Release

Freiburg
April 16, 2012
No. 08/12

Black Photon Instruments Achieves Success with its Measurement Technology for Concentrating Systems

Fraunhofer ISE spin-off company presents products at the CPV Conference in Toledo

On Monday April 16, 2012 the 8th International Conference on Concentrating Photovoltaic Systems (CPV-8) begins in the Spanish city of Toledo. This is one of the most important events in the branch. Black Photon Instruments, a spin-off company of the Fraunhofer Institute of Solar Energy Systems ISE will be represented at the conference with its own exhibition stand for the first time. Located at Booth No. 18, the company from Freiburg will present measuring instruments and sensors to improve the efficiency of concentrating photovoltaic systems. With this specialization, Black Photon Instruments has successfully entered one of the many market niches in the solar branch.

Black Photon Instruments GmbH is a young start-up company located in Freiburg, Germany. It manufactures measuring instruments and sensors to, for example, measure the solar spectrum or determine the tracking precision in concentrating photovoltaic (CPV) systems. In CPV systems, sunlight is concentrated onto small, highly efficient multi-junction solar cells which are mounted on trackers to follow the sun throughout the day. Two decisive parameters for optimum operation are the efficient conversion of the incident solar radiation into electricity and accurate solar tracking. At the CPV-8 in Toledo, Black Photon Instruments presents first details about its newly developed complete systems, which record and evaluate both the meteorological data and system operating data. The team of four representing Black Photon at CPV-8 will also be giving oral presentations at the conference, among

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other topics on the spectral characteristics of the solar radiation worldwide.

“With Black Photon Instruments GmbH, Fraunhofer ISE has once again launched a spin-off company with great potential. The founding idea behind the company is the further development, production and marketing of spectral sensors based on III-V component cells developed at Fraunhofer ISE,” says Dr. Andreas Bett, Deputy Director of Fraunhofer ISE and Division Director of Materials – Solar Cells and Technologies. The solar spectrum can be analyzed using component cells. In particular, one can determine how changes in the solar spectrum due to weather and climate ultimately affect the CPV power plant yield. Fraunhofer ISE has many years of R&D experience in this field.

Positive Response: Measuring technology from Black Photon Instruments establishes itself on the market

“We are delighted about the spin-off and its successful entry into the international market. About two years after being spun-off, Black Photon Instruments is standing on its own two feet and is working for clients from Freiburg, Germany to Colorado, USA,” says Dr. Joachim Jaus, CEO of Black Photon Instruments. After the company successfully started with the manufacture and sales of spectral sensors, it expanded its portfolio to develop high precision measurement devices to determine the sun’s position for use in CPV systems. The measurement devices developed and manufactured by Black Photon Instruments, record the tracker accuracy with extremely high precision. As a result, the performance can be analyzed with regard to any changes made on the tracker construction, i. e. reducing the material thickness. The results and their analyses are important factors for the further development of trackers and for increasing the efficiency of CPV systems. Due to its relevance, the measurement of tracking systems is also the topic of a conference contribution by Black Photon Instruments at the CPV-8.

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Close Ties: Continued cooperation with Fraunhofer ISE

Today Black Photon Instruments and Fraunhofer ISE still maintain a link. They have sealed a cooperative agreement and are working intensively on the further development of spectral sensors. At the end of 2011, Black Photon Instruments received one of the sponsored projects from the German Environmental Foundation (DBU) to develop new sensors for measuring the spectral characteristics of global radiation. In close cooperation with, among others, the CalLab PV Cells and the Concentrating Technology and Evaluation Center (ConTEC) of Fraunhofer ISE, calibrations and comparative measurements of PV module performance as well as aging tests were performed.

Visit Black Photon Instruments from 16.–18. April 2012 at the 8th International Conference on Concentrating Photovoltaic Systems CPV-8 in Toledo, Spain, Booth No. 18.

About Black Photon Instruments

Black Photon Instruments GmbH was founded as a spin-off of Fraunhofer ISE in July 2010. The company focuses on the development, production and marketing of measurement technology used for the monitoring and operation of solar power plants as well as research on solar radiation. Black Photon Instruments GmbH is located in Freiburg, Germany and has four employees at present. Dr. Joachim Jaus is the CEO. He worked on this Ph.D. thesis at Fraunhofer ISE and the University of Freiburg, and spent some time as a researcher at the Fraunhofer Center for Sustainable Energy Systems CSE in Boston, MA USA.

www.black-photon.de

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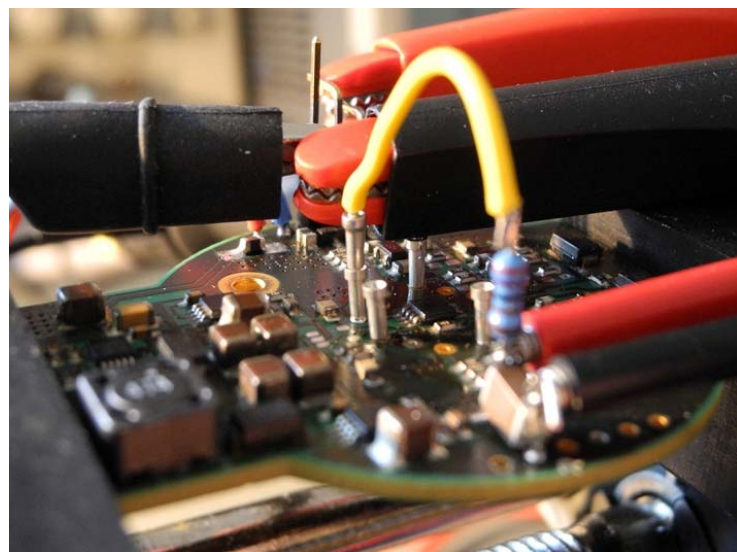
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Measurement device to determine sun's position, used to measure the tracker accuracy. © Black Photon Instruments



Electronic circuit for signal processing, integrated in sensors for measuring tracking accuracy. With this circuitry, the tracker performance can be measured with the highest precision over an especially large temperature range from 40°C to +85°C.
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Informational Material

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The text of the PR and photos can be downloaded from our web page: www.ise.fraunhofer.de

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