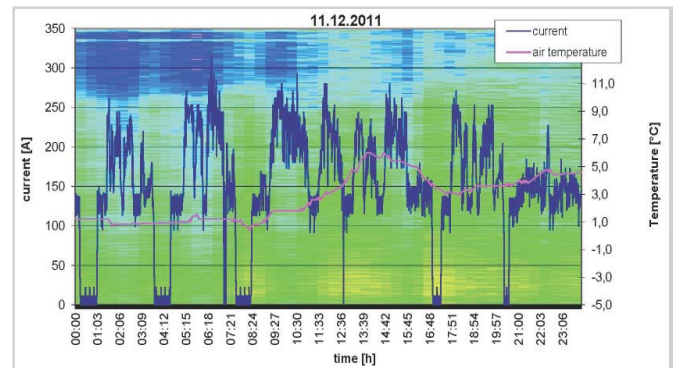


Distributed Temperature Sensing (DTS) - 1064 nm



*Reference Project:
Application of a 1064 nm
DTS-System for Cable Monitoring
at Excavators in Opencast Mining
(RWE)*

Inlet: Microchip Laser (Crylas)



*Distributed Temperature Sensing for 24 hours
x-axis: time; y-axis: fiber section; colour: temperature*

System Specification

System

Applied Fiber Wavelength Single and Multimode
1064 nm

Measurement Range 5000 m
Accuracy $\pm 5.0^{\circ}\text{C}$
Temperature Resolution $3.0^{\circ}\text{C} @ 5000 \text{ m}$

Spatial Resolution 1.0 meter
Sampling Resolution 0.1 meter

Light source

Microchip Laser (Crylas) 1064 nm
Laser Safety Class 1M
Repetition Rate 15 kHz
Pulse Width 1.5 ns

Detector

Applied Detector Avalanche Photodiode

Contact

Fraunhofer Heinrich Hertz Institute

Dr. Martin Angelmahr
Am Stollen 19B, Haus 3, 38640 Goslar, Germany

Phone: +49 (5321) 6855 - 132
Mail: martin.angelmahr@hhi.fraunhofer.de

Partners



Fraunhofer Heinrich Hertz Institute
Fiber Optical Sensor Systems