

# PV Modules Performance Outdoor Testing

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# PV Modules Performance Outdoor Testing

**DERlab's common quality standard**

**DERlab workshop on PV outdoor tests**

**Current status and next steps**

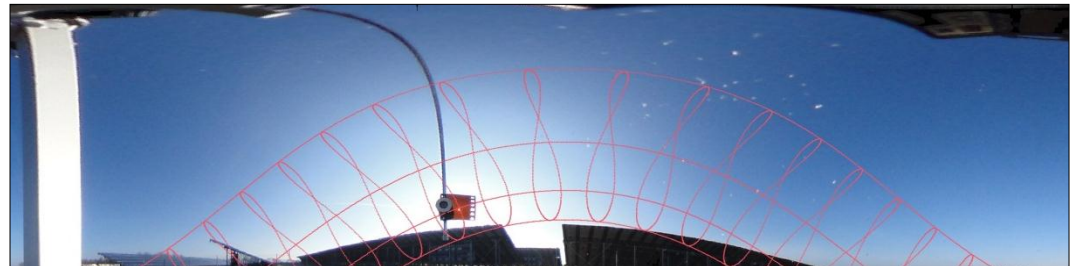


## DERlab's common quality standard

- First standard on long term PV outdoor tests
- Filling the gaps of international standardization
- Establish quality criteria for long term PV outdoor testing
- Purpose: Energy yield assessment under various environmental conditions

→ other possible evaluations:

- low light performance
- incident angle dependency
- temperature response
- etc.





# DERlab's common quality standard

- Research on international norms and standards
- Development of a draft standard and a template for test reports
- Running tests (NTUA, Greece)

	Reference No. 100 - 01	Date 4/09/2011
	DERlab standard on long-term photovoltaic module outdoor tests	
<p>- DRAFT -</p> <p><b>Guidelines and harmonised procedures on long-term photovoltaic module outdoor tests;</b> - English version -</p> <p>Richtlinie zur einheitlichen Durchführung von Langzeituntersuchungen für Photovoltaikmodule unter Freilandbedingungen; - Englische Fassung -</p> <p>Directives et procédures harmonisées pour de séries de tests effectués à l'extérieur et à long-terme sur les panneaux photovoltaïques; - Version anglaise -</p>		

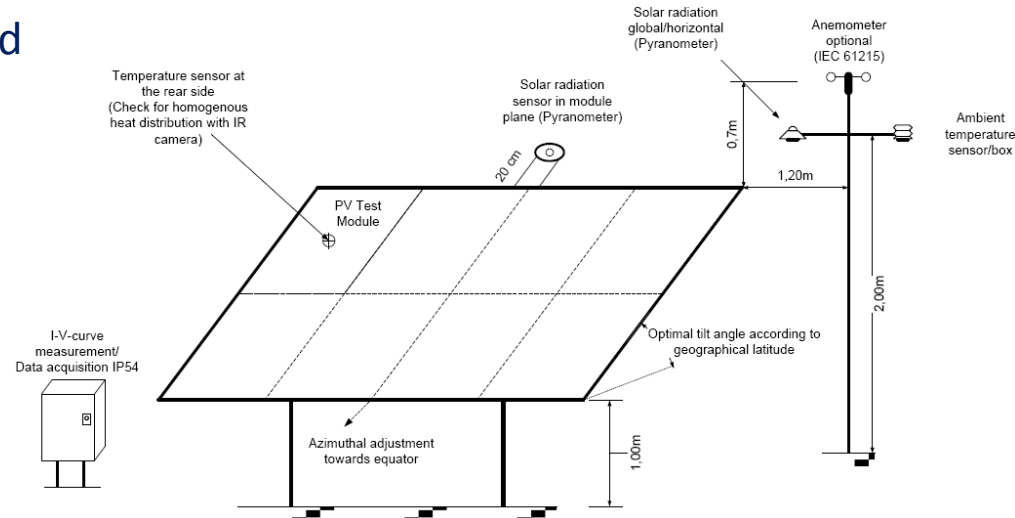
Kassel, August 31<sup>st</sup> 2011, 13:00-17:30

23 attendants (7 DERlab members, 7 external institutes - research and industry)



Identifying the lacks of the standard and filling them up

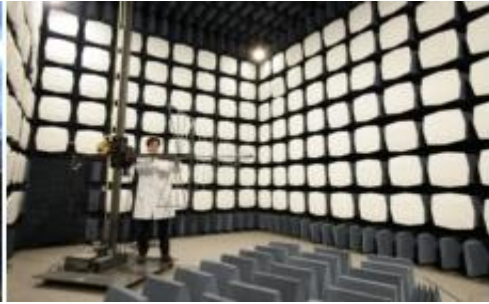
- discussion topics:
  - scope and objectives of the standard
  - definition of a free horizon
  - testing location criteria
  - module temperature measurement
  - I-V-Curve measurement
- outcome:
  - basic measurement requirements for determining the annual module energy yield in  $\text{kWh/kW}_{\text{STC}} * a$



## Current status and next steps

- Integration of the comments completed
- Still under discussion:
  - Test report template
  - Maintenance of PV modules and measurement equipment
  - Testing different technologies
- Publication of the “DERlab standard on long-term photovoltaic outdoor tests” – end of October
- Implementation of the DERlab quality criteria in DERlab testing facilities
- Provision of guidelines for long-term PV outdoor tests according to DERlab standard
- Organizing a DERlab training course on long-term PV outdoor tests
- Future standardization tasks in DERlab:  
„PV Outdoor System Testing“  
→ Energy yield + Grid connection issues





# Thank you!

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