P A R L P V

Data sharing for trans-European PV performance analyses

Workshop, WG1, CA16235, 3 November 2020

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Rationale

- PEARL-PV: Performance and Reliability of Photovoltaic Systems: Evaluations of Large-Scale Monitoring Data
- Databank realized
- Required data follows research questions that are
  - bottom up
  - highly interdisciplinary
  - open to new ideas and approaches
  - all-inclusive with regards participation of diverse groups
- PV performance analysis is not merely technical
  - Do include financial, societal, environment and user-interaction
- Research questions lead to collaborative papers

Data collection for databank

- Data required ideally should come from research questions:
  research-driven data collection
  e.g., mapping of PV performance in Europe
- Cross fertilization workshops (February 2020, Utreecht)
  - 10 topical workshops
  - Discussion on ~3 presentations per workshop should lead to research question, and required data to address that question

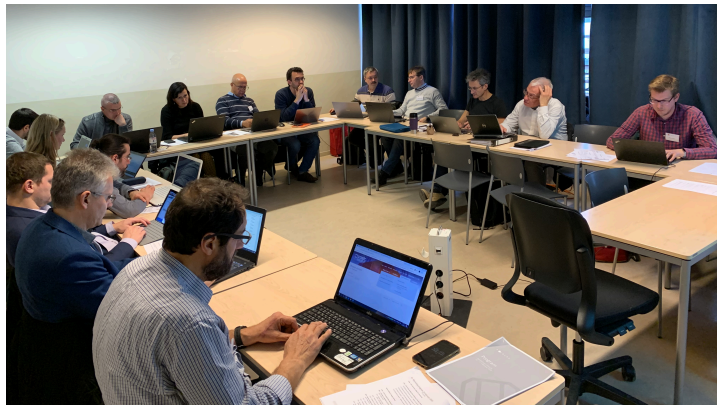
Cross-fertilization workshops (Utrecht, Feb 2020)

S1 Big Data Analytics	S2 PV systems integration	S3 Simulation of complex shading for BIPV	S4 Modelling and monitoring of bifacial system gain	S5 Assessment of spectral irradiance differences
S6 Big Data Analytics	S7 Assessment of performance of PV systems across Europe	S8 Simulation of performance for curved surfaces	S9 Increasing industry collaboration with the Action	S10 Sustainability of PV in the built environment

Cross-fertilization sessions follow up

- RQ: Assessment of spectral irradiance differences
  - Anne Gerd Imenes, Atse Louwen, Dirk Stellbogen, Basant Raj Paudyal, Sakthi Guhan, Angele Reinders, Wilfried van Sark
  - Aim: map Average Photon Energy of Europe → paper
- RQ: Performance variation across Europe
  - Jonathan Leloux → paper
- RQ: Sustainability of PV in built environment
  - LCA, BIPV, link PVPS Task 15?
- Other RQs unclear

Aim for today



- First part: inspirational talks
- Second part: parallel meetings to brainstorm on research questions
- Third part: database up/download instructions

- In parallel meetings:
  - Brainstorm
  - Identify together three research questions
  - Identify the data that is needed to solve the question
  - Form a group of reserachers that will collaborate on solving the question
  - Appoint from within the group a lead and co-lead

Program

Time	Item / Title	Presenter
9h00-9h05	General introduction	Angele Reinders
9h05-9h10	Research presentations, thematic	Wilfried van Sark
9h10-9h25	Performance ratio	Jonathan Leloux
9h25-9h40	Performance loss rate and data requirements	Sascha Lindig
9h40-9h55	Data processing and quality verification	Andrea Livera
9h55-10h00	Questions, recapitulation	Wilfried van Sark
10h00 -10h10	Break	
10h10-10h15	Introducing new session	Wilfried van Sark
10h15-10h40	Break-out rooms: brainstorm on a collaborative paper	Cihan Gercek Nikolina Shutinoska Angele Reinders
10h40-11h00	Joining the ideas and setting structure	Wilfried van Sark
11h00-11h10	Break	
11h10-11h15	Introducing new session	Wilfried van Sark
11h15-11h45	Brake out rooms: Uploading/downloading data to database CKAN	Cihan Gercek Nikolina Shutinoska Wilfried van Sark
11h45-12h30	Task division for the collaborative work, future possibilities - Feedbacks- Q&A	Wilfried van Sark