Welcome and Introduction to the PVLIB User's Group Meeting

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PVPerformance
MODELING COLLABORATIVE

Exceptional service in the national interest

Sandia National Laboratories

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U.S. DEPARTMENT OF ENERGY

NNSA
National Nuclear Security Administration

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Topics for this Meeting

Morning Session

1. **Introduction to PVLIB (Python)**
   - GitHub
   - Function conventions
   - Test scripts
   - Documentation
   - Dependencies with other Python packages

2. **Introduction to PECOS (Python)**
   - Utility for quality control of monitored time series data, including running PVLIB models.

3. **Introduction to CIRCUS (Python)**
   - SunPower open source for standardizing model applications

- **Update on newest features for PVLIB (Matlab)**

Afternoon Session

1. **Feedback from users**
   - How are you using PVLIB now?
   - What do you wish it could do?
   - What is holding you back from contributing?
   - How can we increase active participation in the project?

2. **Open session with PVLIB experts**
   - Personalized help on projects
   - Work on examples
   - Try out what was discussed in the morning

A bit of History

- Matlab version started as an internal tool at Sandia in 2010-2011 developed to help standardize analyses across the PV group.
  - PVLIB Version 1.0 – May 2012 – 29 functions
  - PVLIB Version 1.1 – Jan 2013 – 38 functions
  - PVILB Version 1.2 – Dec 2014 – 44 functions
  - PVLIB Version 1.3 – Dec 2015 – 59 functions
- Python version was initially developed from 2013-2014 by Rob Andrews under contract from Sandia.
- 2015 Python PVLIB converted to Open Source GitHub project largely managed by Will Holmgren at University of Arizona.

Usage Statistics

- **PVLIB Matlab has been downloaded over 2,660 times**
  - Used at many universities for class projects and research
  - Used at many companies
- **PVLIB Python**
  - PyPI: 5,509 total downloads
  - Anaconda.org: 498 downloads
  - Clones from GitHub: 111 (17 unique in last 3 weeks)
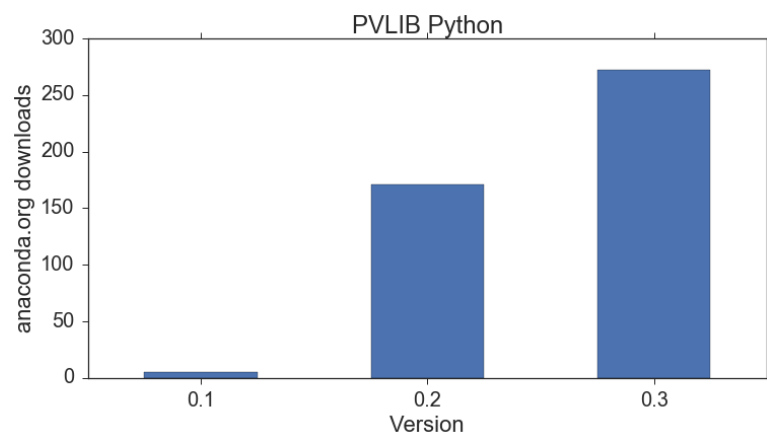
Getting usage statistics is important for obtaining future funding for this project. We need to show that we are making an impact!

What is next?

- We need to follow more conventional Open Source conventions for the Matlab version
  - GitHub distribution
  - Testing
  - Documentation
- We need to figure out how to keep Matlab and Python versions consistent.
- We need to build a larger team to maintain the software into the future.
- How best to interface with other software (PECOS, CIRCUS, etc.)?
- What should be the next event?
- What are the best opportunities for further development?

Thank You and Enjoy the Workshop!

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