



DATTES in a Cheat Sheet

DATTES is a collection of tools to read / adapt / analyze / visualize data from experiments on energy storage components (or systems), e.g. Lithium-ion batteries, supercapacitors, etc..

Getting DATTES

Getting the latest release of DATTES

- The different release of DATTES are available here : [Link](#)
- Download the latest release
- Open Matlab or Octave and change the working folder to reach DATTES
- Open and run `initpath_dattes.m`
- DATTES is ready to use

DATTES dependencies

- DATTES works with Matlab and Octave.
- None Toolboxes are needed

DATTES License

- DATTES is licensed under GNU GPL v3 and license is available here : [Link](#)

What can I do with DATTES ?

Converting raws battery bench data files to XML

DATTES converts the raws battery bench data files produced by different battery cyclers to XML. To date, battery bench data files that can be converted are :

- **Arbin** which make **.res files** or **.res files** and can be converted respectively with `arbin_res2xml(directory_name)` and `arbin_xls2xml(directory_name)` function
- **Biologic** which make **.mpt files** and can be converted with `biologic_mpt2xml_files(directory_name)` or `biologic_mpt2xml_folders(directory_name)` function
- **Bitrode** which make **.csv files** and can be converted with `bitrode_csv2xml(directory_name)` function

Analyzing and visualizing data thanks to RPT

DATTES is called by writing : `[result,configuration,phases]=dattes('XML_file','configuration_file',action)`

- **'XML_file'** : Contains the test data file converted into XML
- **'configuration_file'** : Contains the configuration file which describes how to analyze the test
- **'action'** : Actions are the type of treatment you want. Main actions are :
 - ▶ **'cs'** : Run the configuration according to the `cfg_file` and save result, config, phases into a `'xml_file_result.mat'`
 - ▶ **'CSs'** : Measure Capacity and State of Charge and save result, config, phases into a `'xml_file_result.mat'`
 - ▶ **'RZs'** : Calculate Resistance and Impedance and save result, config, phases into a `'xml_file_result.mat'`
 - ▶ **'IPOs'** : Calculate ICA, Pseudo-OCV and OCV by points and save result, config, phases into a `'xml_file_result.mat'`
 - ▶ **'GA'** : Visualize all the results obtained

Where can I learn how to use DATTES ?

A set of tutorials and examples are available on our website :

- Tutorials : [Link](#)
- Examples : [Link](#)

Some public battery test result dataset analysis are also available

- Second life batteries databank :
 - ▶ [Link to the databank](#)
 - ▶ [Link to the analysis with DATTES](#)
- CALCE databank :
 - ▶ [Link to the databank](#)
 - ▶ [Link of the analysis with DATTES](#)

Contribute to DATTES

Guideline to improve DATTES code

- Make sure you use the last version of DATTES
- Develop DATTES locally with respect to this guideline : [Link](#)
- Make merge request of your code and explain in detail how your code improves DATTES
- A list of possible improvements of DATTES is available here : [Link](#)

Guideline to improve DATTES documentation

- A list of possible improvements of DATTES documentation is available here :
 - ▶ For the code, [Link](#)
 - ▶ For the documentation, [Link](#)

Citing DATTES

If you use DATTES in your work, please cite this paper : [Link to the paper](#)

Redondo-Iglesias, Eduardo (2017). *Étude du vieillissement des batteries lithium-ion dans les applications" véhicule électrique" : combinaison des effets de vieillissement calendaire et de cyclage* (Doctoral dissertation, Université de Lyon).