SModelS v2.0 installation instructions

(Re)interpreting the results of new physics searches at the LHC
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https://smodels.github.io/

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Requirements

SModelS is a Python package; v2.0 has been developed and tested with **Python 3**
It depends on the following ***external* Python libraries**:

- unum>=4.0.0
- numpy>=1.13.0
- argparse
- requests>=2.0.0
- docutils>=0.3
- scipy>=1.0.0
- pyslha>=3.1.0
- pyhf>=0.4.3 (>=0.5.2 recommended!)
- jsonpatch>=1.25
- jsonschema>=3.2.0

(+ recommended for pyhf: pytorch)

The cross section computer provided by smodelsTools.py requires:

- Pythia 8.2 (requires a C++ compiler) or Pythia 6.4.27 (requires fortran)
- NLL-fast 1.2, 2.1, and 3.1 (requires a fortran compiler)

These tools need not be installed separately, as the SModelS build system takes care of that.

The database browser provided by smodelsTools.py requires IPython, while the interactive plotter requires plotly and pandas.

More information on:
https://smodels.readthedocs.io/en/latest/Installation.html

Standard installation

Download the v2.0.0 (beta) from https://github.com/SModelS/smodels/releases
and extract it in a source directory, e.g.:

```
> tar -zxvf smodels-2.0.0-beta.tar.gz
> cd smodels-2.0.0-beta
```

then run

```
> make smodels   (or: make FC=<path_to_fortran> smodels)
```

in the top-level directory. This will install the required dependencies (using pip install) and compile Pythia and NLL-fast.

If the (MSSM) cross section computer is not needed, run instead

```
> make smodels_noexternaltools
```

In case the Python libraries cannot be successfully installed, the user can install them separately using his/her preferred method. Pythia and NLL-fast can also be compiled separately running `make externaltools`.

Alternatively:

- using python setuptools in the source directory:

  ```
  setup.py install [--user]
  ```

- or install by using pip:

  ```
  pip3 install [--user] smodels==2.0.0b0
  ```

More information on:
https://smodels.readthedocs.io/en/latest/Installation.html

More explanations

- A detailed documentation is available in the **online manual**
- For instructions on how to install SModelS, check the **installation** section in the manual.
- You may also want to check the release notes and known issues

Mailing lists:

- For questions and comments, send an e-mail to: smodels-users@lists.oeaw.ac.at.
- To receive updates and announcements, subscribe to smodels-info.

More infos are given in the talk
SModelS v2.0: new features and developments
by Andre Lessa on Monday 14.10pm

...and in **this tutorial on Tuesday 11am**