

Serpent 2 python plotter

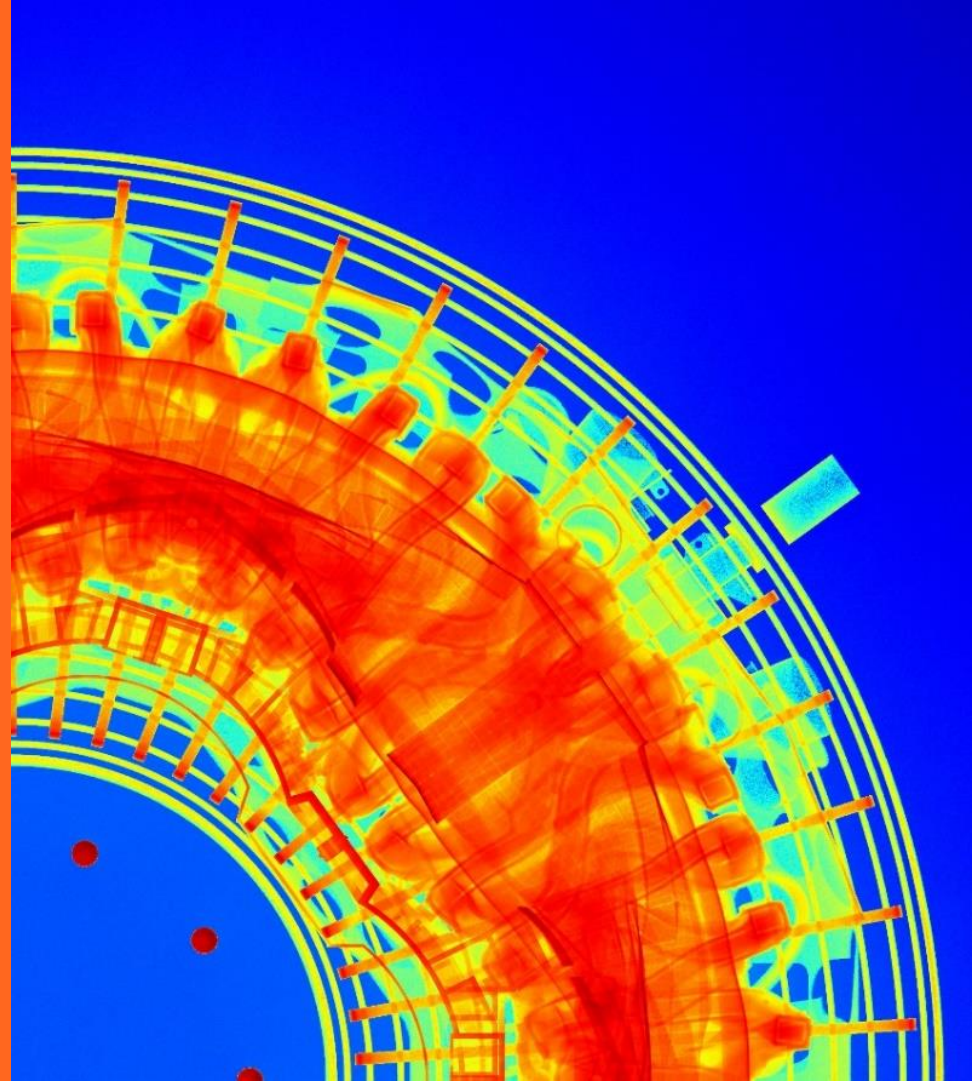
Serpent UGM

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Goal: interactively explore the geometry

- A python graphical user interface to display and set-up the plot.
- Serpent2 is loaded as a library to python using ctypes
- Tkinter based GUI
- Plotting done with matplotlib

The python side available via pip; C-side with Serpent 2.1.32

- When you get Serpent 2.1.32 you need to compile sss2 as a library:
 - Uncomment in Makefile
`CFLAGS += -fpic`
 - `make clean`
 - `make lib`
- To get the python side code:
 - `pip install pysss2`
 - Run as if running serpent2 with a single extra parameter:
 - `pysss2 --libsss2so /path/to/libsss2.so myModel -omp 4`
- The python side is open source at GitHub project pysss2:
 - <https://github.com/sjjamsa/pysss2>

Two modes foreseen

- **Genuine Serpent2**
 - The picture data is compiled as in “plot” cards.
 - Data transferred as pixel colors
 - As fast as possible
- **Matplotlib plotting**
 - Get the data as numerical values (e.g. material density)
 - Plot with Matplotlib
 - Colorbars and geometry easier to implement

Matplotlib plotting

Wendelstein 7-X geometry

Plotted with pysss2 version 0.3.dev3, Python plotter interface version 11 (unreleased work towards 2.1.32)

