Jupyter-OOMMF: VRE for Micromagnetic Simulations

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Introducing Jupyter-OOMMF

- provides a user-friendly interface to the finite difference code **OOMMF** (http://math.nist.gov/oommf/)
- enables the use of **Jupyter notebooks** (jupyter.org), which can be run in any webbrowser (illustrated in Fig. 1)
- commands allow to run a full simulation workflow within a single notebook instead of using different tools in each step of the workflow (see Fig. 2)
- interaction of the frontend layer written in **Python 3** with OOMMF through .mif-configuration files[1]
- extendable to other code packages in the future
- freely available on github (**https://github.com/joommf**)
- website with documentation: **joommf.github.io**

Fig. 1: **JOOMMF** = **J**upyter + **OOMMF**

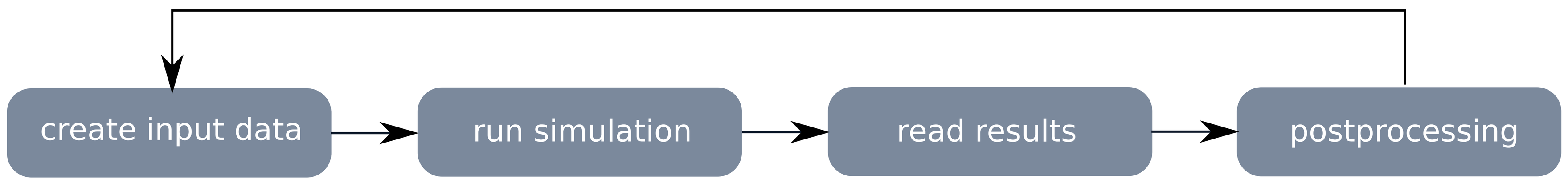
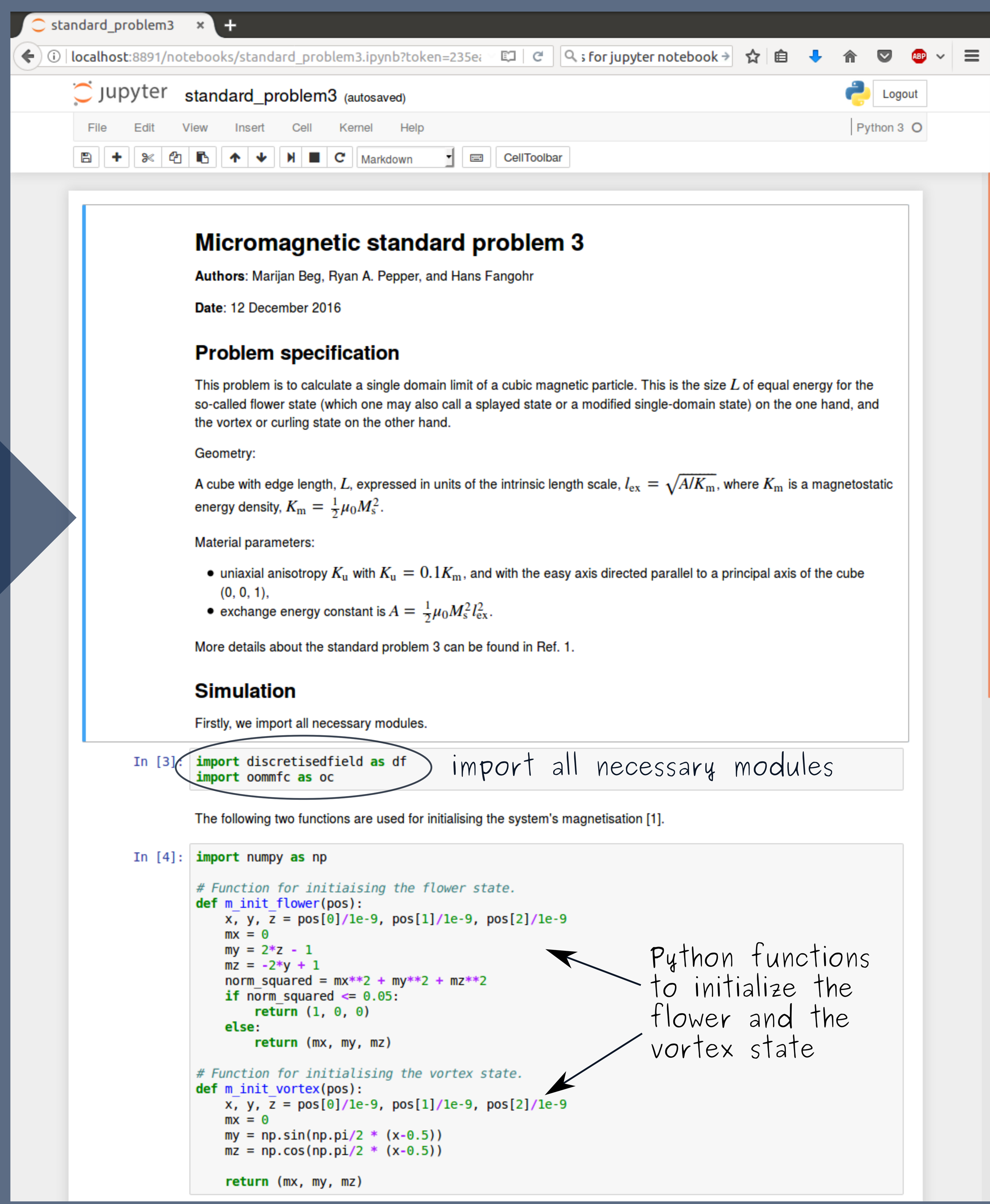
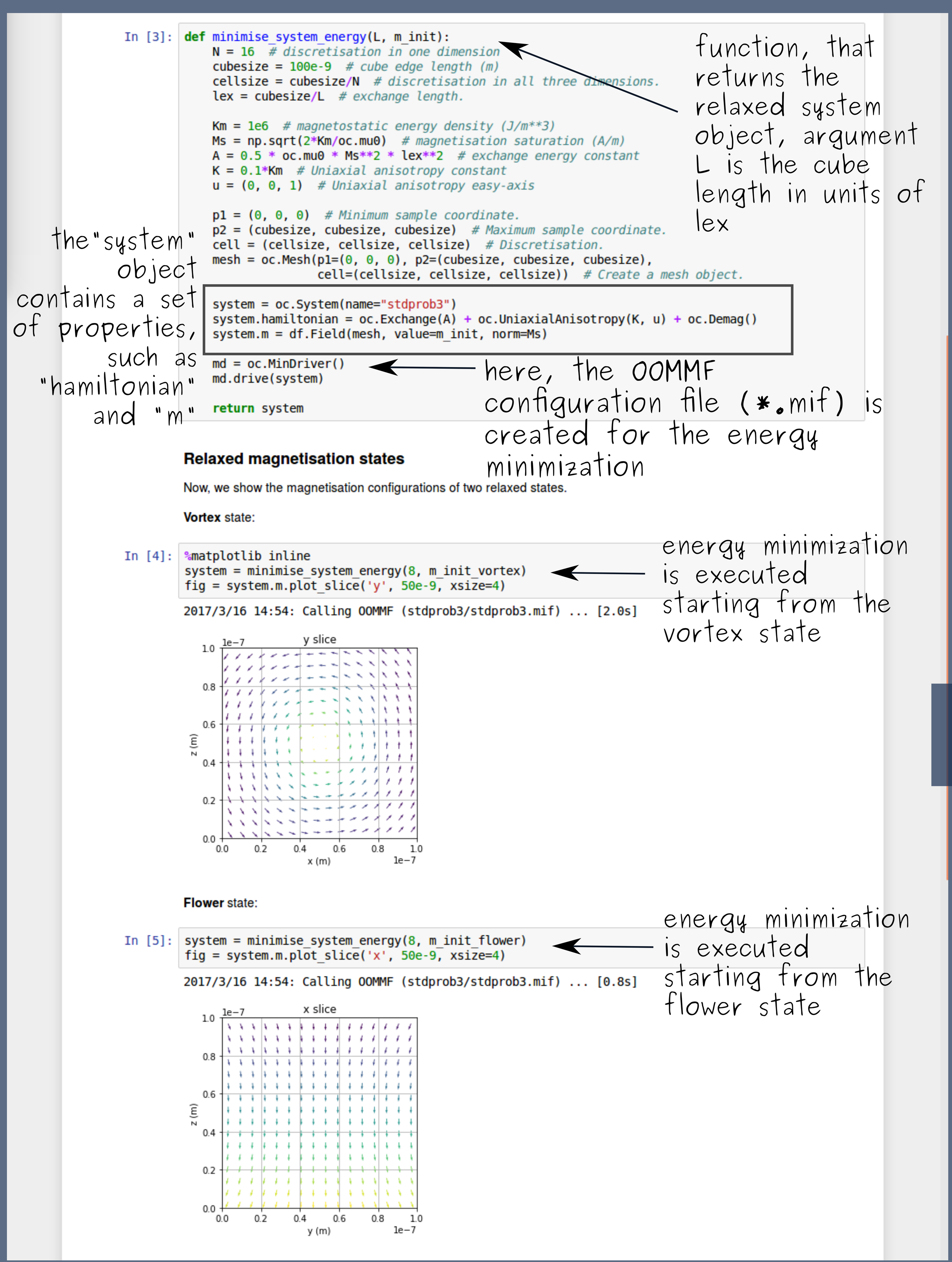
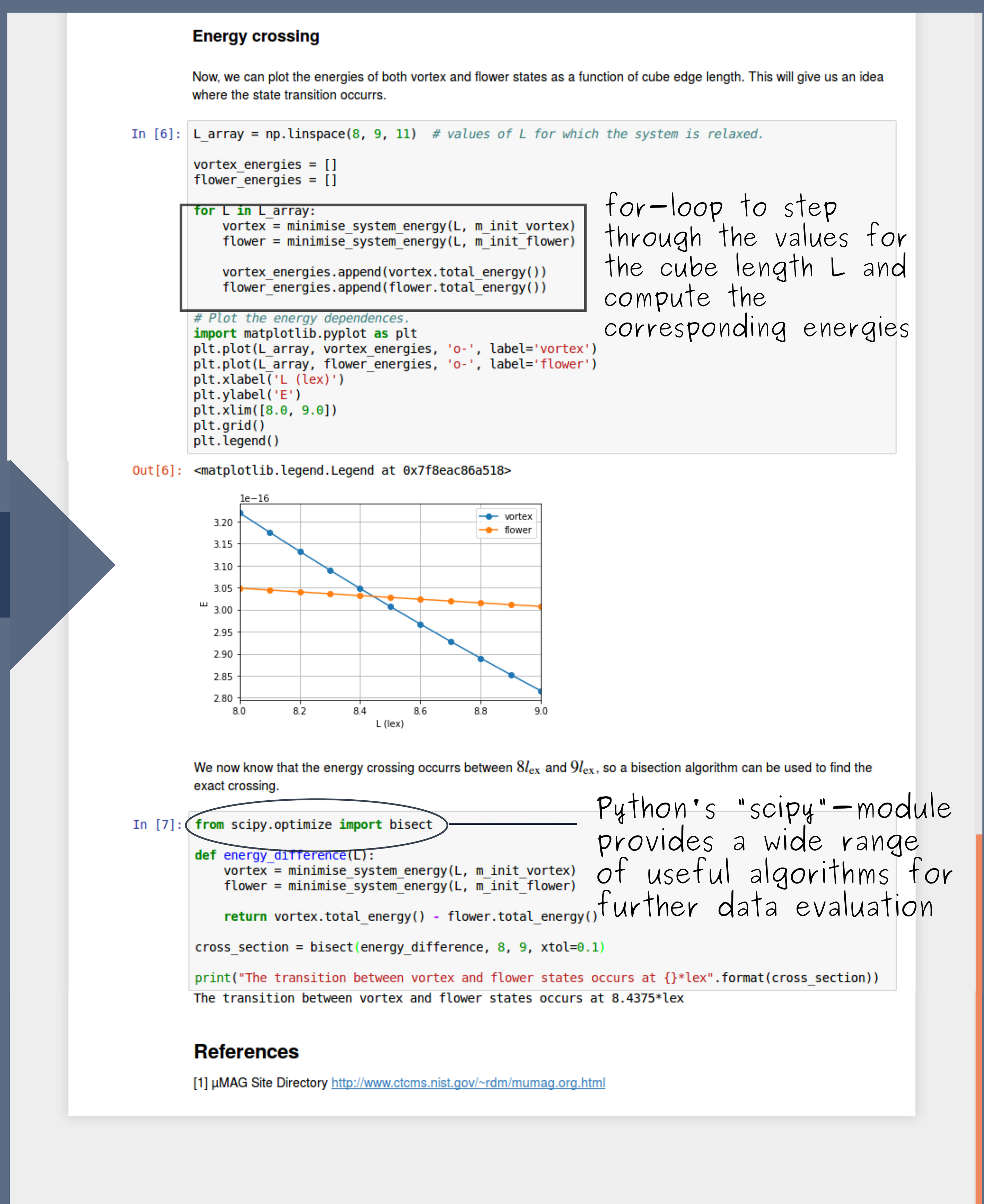


Fig. 2: Simulation workflow

Standard problem: find critical size of magnetic cube [2]







[1] Beg. M., Pepper R., Fangohr H., AIP Advances 7, 056025 (2017)

[2] mumag Standard Problem 3: www.ctcms.nist.gov/~rdm/mumag.org.html

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