

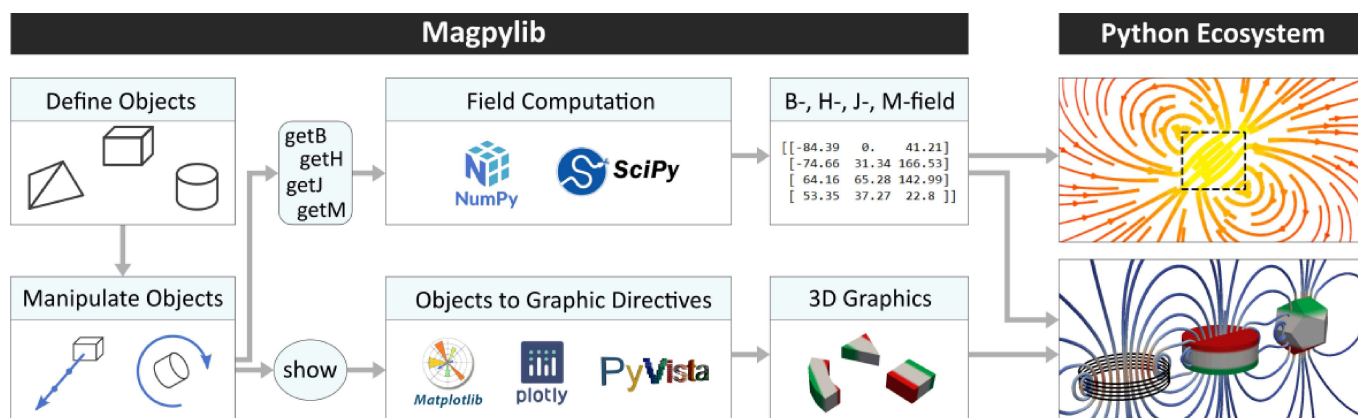
# The Magpylib Documentation

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Magpylib is an **open-source Python package** for calculating static **magnetic fields** of magnets, currents and other sources. It uses **explicit expressions**, solutions to the macroscopic magnetostatic problems, implemented in **vectorized** form which makes the computation **extremely fast**. Make use of the open-source Python ecosystem for spectacular visualization.

## How it works



In Magpylib, **sources** (magnets, currents, ...) and **observers** (sensors, position grids, ...) are created as Python objects with position and orientation attributes. These objects can be **grouped** and **moved** around. The system can be **viewed** graphically through various backends. The **magnetic field** is computed in the observer reference frame. Magpylib collects all inputs, and vectorizes the computation for maximal performance.

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