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PlasmaPy: beginning a community developed Python package for plasma physics NICHOLAS A. MURPHY, Harvard-Smithsonian Center for Astrophysics, YI-MIN HUANG, Princeton University, THE PLASMAPY COLLABORATION — In recent years, researchers in several disciplines have collaborated on community-developed open source Python packages such as Astropy, SunPy, and SpacePy. These packages provide core functionality, common frameworks for data analysis and visualization, and educational tools. We propose that our community begins the development of PlasmaPy: a new open source core Python package for plasma physics. PlasmaPy could include commonly used functions in plasma physics, easy-to-use plasma simulation codes, Grad-Shafranov solvers, eigenmode solvers, and tools to analyze both simulations and experiments. The development will include modern programming practices such as version control, embedding documentation in the code, unit tests, and avoiding premature optimization. We will describe early code development on PlasmaPy, and discuss plans moving forward. The success of PlasmaPy depends on active community involvement and a welcoming and inclusive environment, so anyone interested in joining this collaboration should contact the authors.

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