

# You can do solar data analysis using SunPy



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Python is widely used for scientific data analysis thanks to a suite of popular, well-supported code libraries. SunPy provides a free, open-source and community-developed environment that supports solar physics data, readying it for more specialized analyses. Some example packages that might be useful to the SIPWork community are shown on the right.

SunPy depends on *pandas*, NumPy, SciPy, AstroPy and *matplotlib*. These packages provide the basic mathematical and astrophysical framework required by SunPy. SunPy is a collaborative effort - anyone can contribute code. If you have any code that you think might fit in to SunPy, please contact us at

[sunpy@googlegroups.com](mailto:sunpy@googlegroups.com)

The SunPy community provides code tips, review, and help with documentation.

Much data analysis can be done using NumPy, SciPy and AstroPy. More specialized types of analysis are often available via other libraries, written by experts in their fields - you do not need to code this up yourself. For example, the PyMC and emcee libraries provide frameworks to define Bayesian statistical models and sample from them using Markov Chain Monte Carlo methods. The scikit-image and Python-OpenCV libraries provide advanced image processing tools. These and many other libraries make Python/SunPy a powerful and open environment for solar data analysis.

