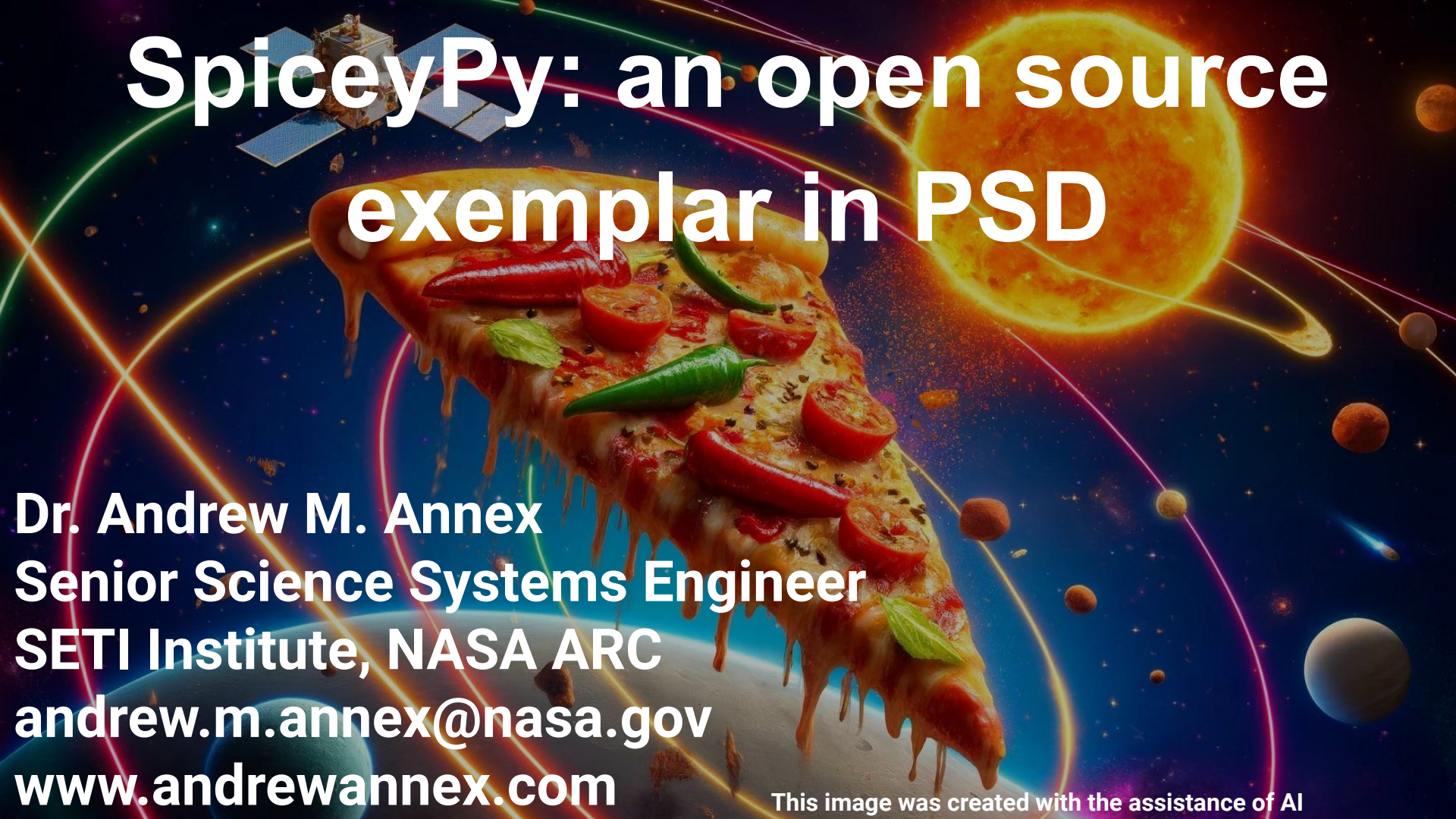
SpiceyPy: an open source exemplar in PSD



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This image was created with the assistance of AI

What is SpiceyPy?

- A community developed, open source Python (3.7-3.12) wrapper for SPICE.
  a. www.github.com/AndrewAnnex/SpiceyPy
  b. MIT license
  c. Contributor Covenant Code of Conduct
  d. Over 600 functions supported
  e. Runs on Windows/macOS/linux
  f. Runs on x86/aarch64/apple silicon
- A wrapper provides a interface to the low-level CSPICE
  a. API is partially simplified to be more compatible with Pythonic idioms (aka: it's pythonic!)
- Complete (>99%) test coverage
  a. Tests run across windows/macos/linux on CI services weekly
- Can be installed via pip or conda
  a. Conda install spiceypy -c conda-forge
  b. Pip install spiceypy

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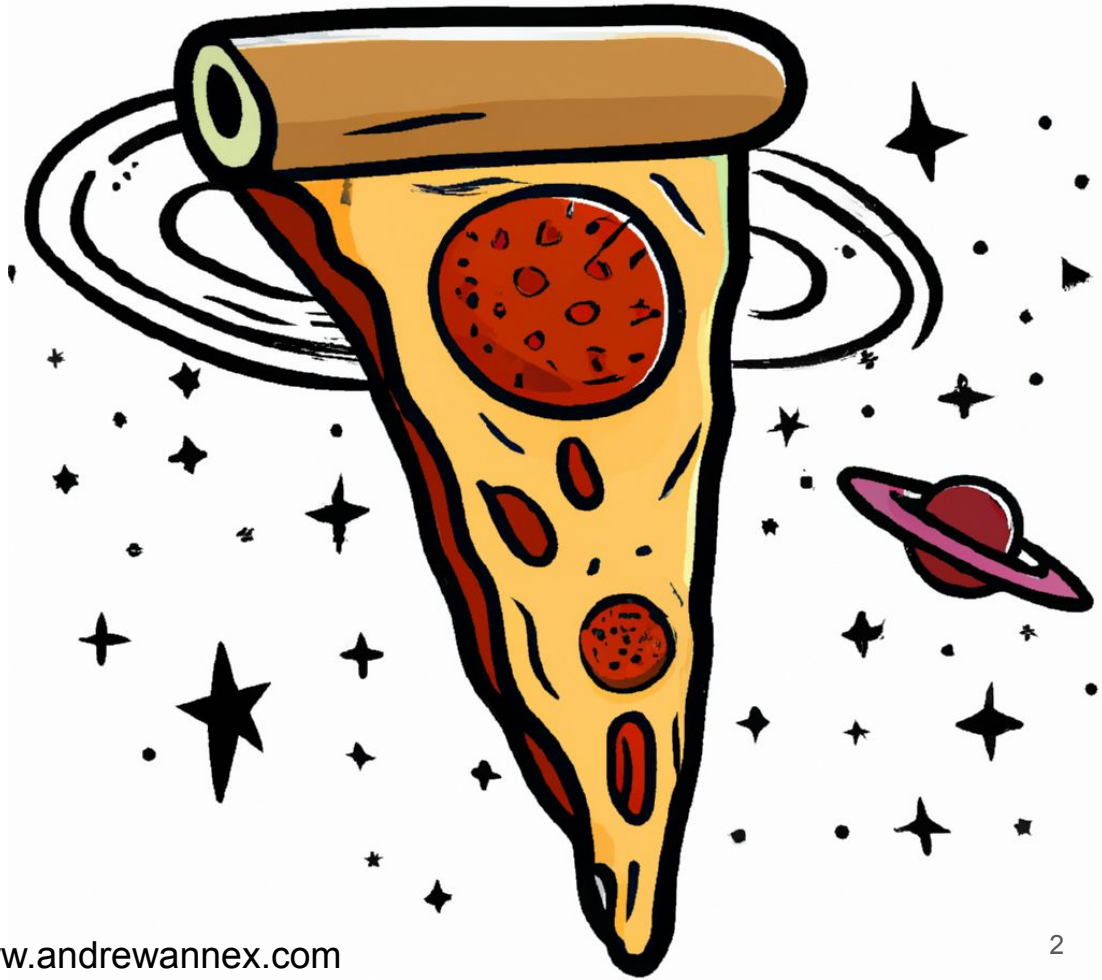
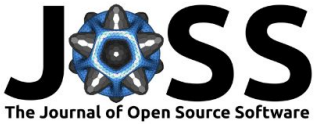


SpiceyPy is Published in JOSS (remember to cite!)

Peer-reviewed in the Journal of Open Source Software (JOSS)



JOSS DOI 10.21105/joss.02050 is now the preferred way to cite SpiceyPy

Read the review: https://github.com/openjournals/joss-reviews/issues/2050

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SpiceyPy: a Pythonic Wrapper for the SPICE Toolkit

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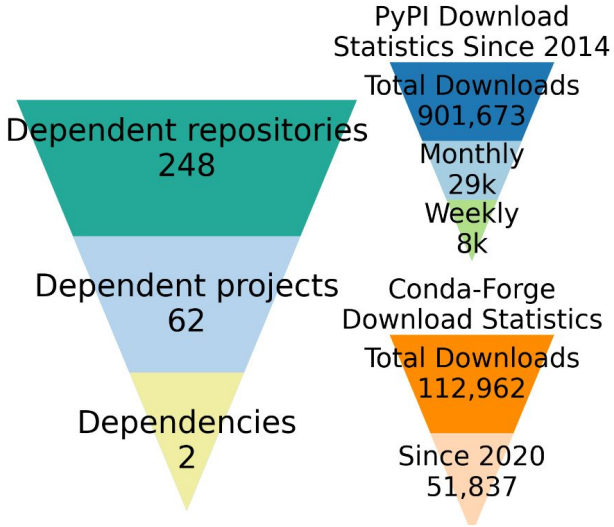
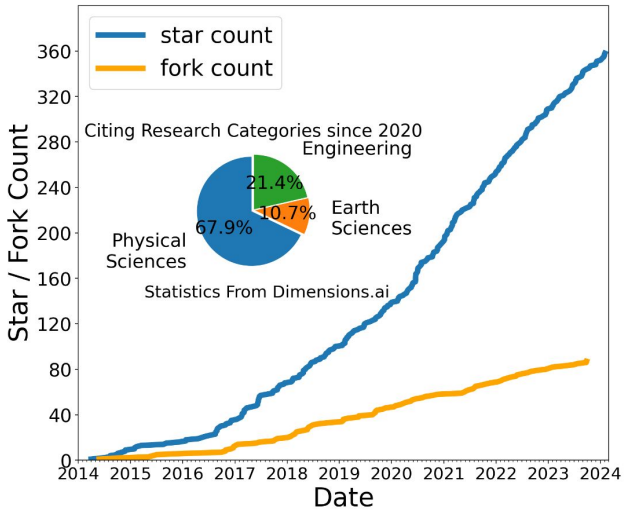
SpiceyPy is widely used for engineering and science!

1. NASA/FFRDC/UARC
   mission engineering & science spanning PSD, HD, AD, more?
   a. Europa Clipper, M2020, MSL, LRO, MRO, MGS, New Horizons, Cassini-Huygens
   b. Parker Solar Probe
   c. JWST
   d. NEO Surveyor, LSST
   e. NASA PDS (Rings and NAIF nodes, more?)
2. ESA
   a. Mars Express, ExoMars, BepiColombo, JUICE
3. General public and more!



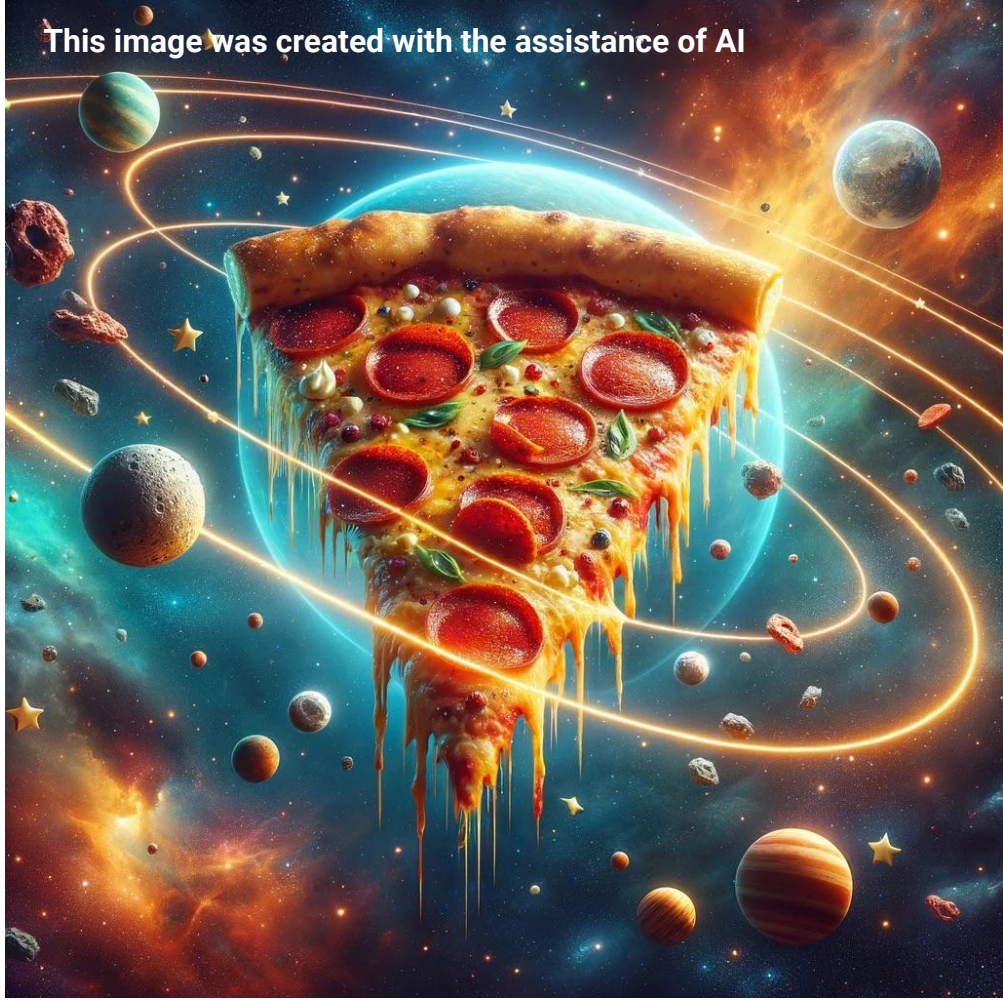


Lessons for SMD

1. SpiceyPy has been developed in the open from start in 2014, using open source best practices from the start
2. Community contributions welcome, but guided and guarded for quality and scope.
3. Defining and sticking almost fully firmly to scope made goals of project achievable

Lessons for SMD

4. SPD41-a does not fully address sustainability of software. Still thinking of what this would look like.
5. SMD should lower barriers to receive small awards available at all career stages as broadly as possible. ROSES should not be the only path available.



SpiceyPy is tested, stable, and ready for you!

1. Nearly 100% complete coverage of SPICE API
2. Used by hundreds of users
3. In-scope code contributions are welcome!

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