

# psrqpy: a python interface for querying the ATNF pulsar catalogue

Matthew Pitkin<sup>1</sup>

<sup>1</sup> Institute for Gravitational Research, SUPA, University of Glasgow, University Avenue, Glasgow, UK, G12 8QQ

DOI: [10.21105/joss.00538](https://doi.org/10.21105/joss.00538)

## Software

- [Review](#) ↗
- [Repository](#) ↗
- [Archive](#) ↗

Submitted: 16 January 2018

Published: 18 January 2018

## Licence

Authors of JOSS papers retain copyright and release the work under a Creative Commons Attribution 4.0 International License ([CC-BY](#)).

## Summary

This Python module provides an interface for querying the [Australia Telescope National Facility \(ATNF\) pulsar catalogue](#) (Manchester et al. 2005). It allows users to access information, such as pulsar frequencies and sky locations, on all pulsars in the catalogue without having to use the current web interface. As such, querying of the catalogue can easily be incorporated into Python scripts.

The module can also be used to create plots of pulsar period against period derivative ( $P$  vs.  $\dot{P}$  plots) using `matplotlib` (Hunter 2007) as shown below.

If requested the module can also return references for parameter values for pulsars using the `ads` Python module (Sudilovsky et al. 2017).

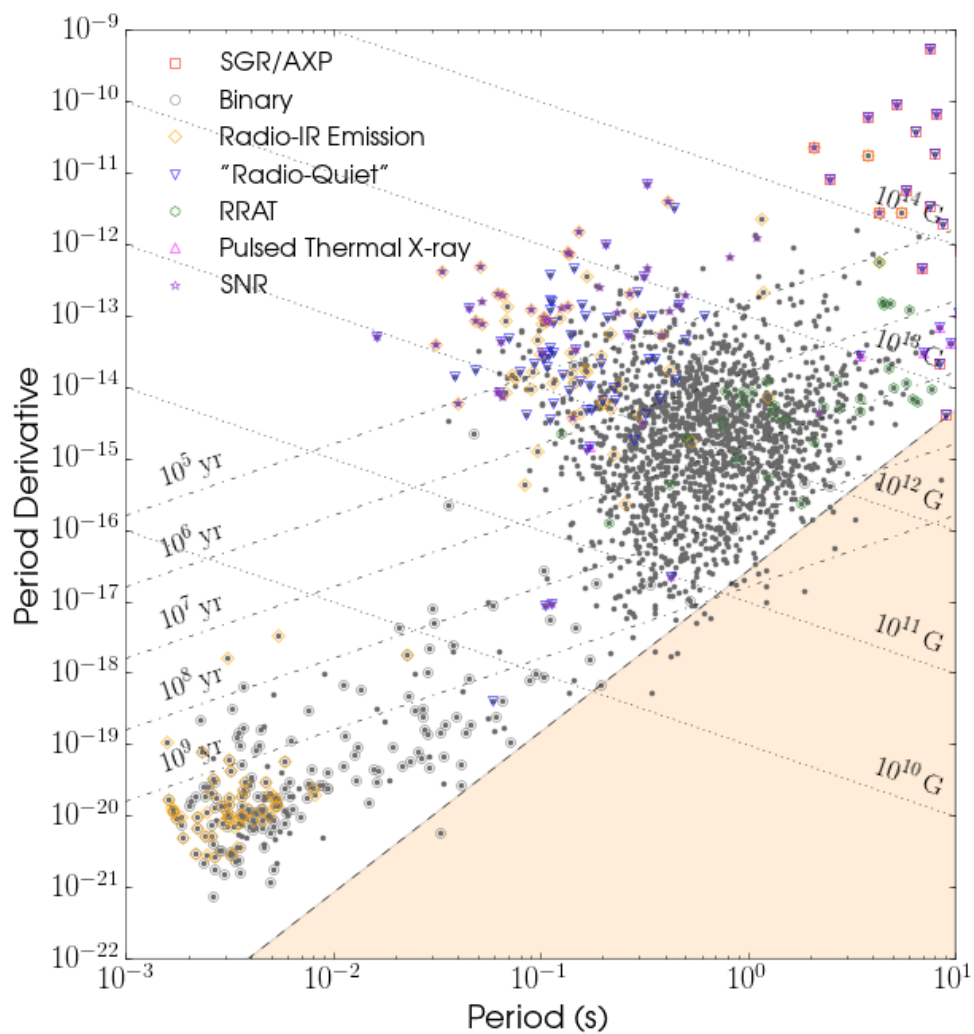
Development of *psrqpy* happens on Github (Pitkin 2017) and the documentation is provided [here](#).

Hunter, John D. 2007. “Matplotlib: A 2D Graphics Environment.” *Computing in Science and Engineering* 9 (3):90–95. <https://doi.org/10.1109/MCSE.2007.55>.

Manchester, R. N., G. B. Hobbs, A. Teoh, and M. Hobbs. 2005. “The Australia Telescope National Facility Pulsar Catalogue.” *Astronomical Journal* 129 (April):1993–2006. <https://doi.org/10.1086/428488>.

Pitkin, Matthew. 2017. “Psrqpy on Github.” 2017. <https://github.com/mattpitkin/psrqpy>.

Sudilovsky, V., A. Casey, G. Barentsen, D. Foreman-Mackey, de Val-Borro. M., and J. Elliott. 2017. “The Ads Python Package.” 2017. <https://ads.readthedocs.io/>.



**Figure 1:** A plot of pulsar period vs. period derivative as produced using *psrqpy*