




1 A Python client for the ATLAS API


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7 Summary

8 The Asteroid Terrestrial-impact Last Alert System (ATLAS) is an all-sky optical sky survey
9 with a cadence of 24 to 48 hours ([Tonry et al., 2018](#)), and the ATLAS Transient Server ([Smith
10 et al., 2020](#)) processes the alert stream to enable the discovery and follow-up of extra-galactic
11 transients. The data from the ATLAS server can be accessed through a REST API, which has
12 allowed the development of bots that need direct access to the data to help rank alerts and
13 trigger follow-up observations of promising targets. Here we present the python client we have
14 developed for the ATLAS API to help connect bots and scientists to our data.

15 Statement of need

16 `atlasapiclient` is a python client that facilitates the use of the ATLAS REST API. It provides
a class-based interface to all the read-write utilities of the API and abstracts away the endpoint
URLs and the token management. The `atlasapiclient` was initially designed to be used in
our transient stream processing pipeline, particularly for the ATLAS Virtual Research Assistant
([Stevance et al., 2025](#)) ([Heloise & Smith, 2025](#)), but it can now also be used to connect other
astronomy projects to the ATLAS data and its stream. It is currently allowing the follow-up
of ATLAS alerts by the Mookodi telescope in the South African Astronomical Observatory
([Nicolas Erasmus et al., 2024](#)), which has allowed automated triggering and classification of
transients within 100 Mpc - e.g. ([N. Erasmus et al., 2025](#)), ([Wet, 2025](#))-, since early 2025. In
the future this will allow us to connect our stream to other surveys and follow-up facilities, e.g.
([Radhakrishnan Santhakumari et al., 2024](#)).

27 We expect the API to evolve over time which could break the production codes that connect
28 to the ATLAS servers. By having a dedicated client package that includes a full set of unit
29 and integration tests we can release updates to the client that are compatible with the new
30 API but do not require users to change their existing code. Decoupling the user's code from
31 the implementation of the API therefore increases robustness from the users side.

32 Data Access

33 In order to gain access to the servers, prospective users will need to fill a [Data Request Form](#)
34 including a short (no longer than 1 page) science case justifying their access needs (length of
35 time; Read-only or Read-Write access). We have also included data policies compliant with
36 the General Data Protection Regulation (GDPR).

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References

- Erasmus, N., Cunnamea, D., Potter, S., & Stevance, H. (2025). SAAO IO Transient Classification Report for 2025-02-04. *Transient Name Server Classification Report, 2025-485*, 1.
- Erasmus, Nicolas, Potter, S. B., van Gend, C. H. D. R., Loubser, E., Rosie, K., Titus, K., Chandra, S., Worters, H. L., Gajjar, H., Hlakola, M., & Julie, R. (2024). Instrumentation at the SAAO for autonomous rapid-response observing. In J. J. Bryant, K. Motohara, & Joël. R. D. Vernet (Eds.), *Ground-based and airborne instrumentation for astronomy x* (Vol. 13096, p. 130968K). <https://doi.org/10.1117/12.3015250>
- Heloise, & Smith, K. W. (2025). *HeloiseS/atlasvras: VRA 1.1* (Version v1.1). Zenodo. <https://doi.org/10.5281/zenodo.14983116>
- Radhakrishnan Santhakumari, K. K., Battaini, F., Di Filippo, S., Di Rosa, S., Cabona, L., Claudi, R., Lessio, L., Dima, M., Young, D., Landoni, M., Colapietro, M., D'Orsi, S., Aliverti, M., Genoni, M., Munari, M., Zanmar Sanchez, R., Vitali, F., Ricci, D., Schipani, P., ... Stritzinger, M. (2024). What is your favorite transient event? SOXS is almost ready to observe! *arXiv e-Prints*, arXiv:2407.17288. <https://doi.org/10.48550/arXiv.2407.17288>
- Smith, K. W., Smartt, S. J., Young, D. R., Tonry, J. L., Denneau, L., Flewelling, H., Heinze, A. N., Weiland, H. J., Stalder, B., Rest, A., Stubbs, C. W., Anderson, J. P., Chen, T.-W., Clark, P., Do, A., Förster, F., Fulton, M., Gillanders, J., McBrien, O. R., ... Wright, D. E. (2020). Design and Operation of the ATLAS Transient Science Server. *132*(1014), 085002. <https://doi.org/10.1088/1538-3873/ab936e>
- Stevance, H. F., Smith, K. W., Smartt, S. J., Roberts, S. J., Erasmus, N., Young, D. R., & Clocchiatti, A. (2025). The ATLAS Virtual Research Assistant. *990*(2), 201. <https://doi.org/10.3847/1538-4357/adf2a1>
- Tonry, J. L., Denneau, L., Heinze, A. N., Stalder, B., Smith, K. W., Smartt, S. J., Stubbs, C. W., Weiland, H. J., & Rest, A. (2018). ATLAS: A High-cadence All-sky Survey System. *130*(988), 064505. <https://doi.org/10.1088/1538-3873/aabadf>
- Wet, S. D. (2025). BlackGEM Transient Classification Report for 2025-01-06. *Transient Name Server Classification Report, 2025-80*, 1.