



EPSC Abstracts

Vol. 14, EPSC2020-630, 2020

<https://doi.org/10.5194/epsc2020-630>

Europlanet Science Congress 2020

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.



## **Exoplanet Atmospheres with HST: An open science framework for the characterisation of exoplanets**

**Angelos Tsiaras**

UCL, Physics and Astronomy, London, United Kingdom of Great Britain and Northern Ireland ([angelos.tsiaras.14@ucl.ac.uk](mailto:angelos.tsiaras.14@ucl.ac.uk))

The field of exoplanets is one of the most rapidly growing, with more than 4000 new planets discovered over the past 25 years. In the last decade, we have entered in a new era, the era of exoplanet characterisation, where studies are also focused on understanding more about individual exoplanets, through follow-up observations. Follow-up observations can be used to better constrain the architecture and the dynamics of the planetary system, to detect and characterise the atmospheres of the planets in the system, and to efficiently plan future dedicated observations. Many ground and space-based observatories contribute to this effort from different perspectives already, and new ones are being designed at the moment. In addition, more exoplanets are being discovered on a daily basis. Overall, the variety and the amount of follow-up observations are increasing year by year. In this context, the effort of characterising exoplanets calls for an efficient way of extracting the most information out of all the available observations and sharing this with the community, though a centralized platform open to as many members of the community as possible. While many observatories provide publicly available data, in such a rapidly growing and diverse field a really open platform cannot be limited to sharing open access data alone.

In this talk I will discuss about the contribution of the Hubble Space Telescope to the characterisation of a population of exoplanet atmospheres over the last 10 years, emphasising the importance of publicly available data but also the limitations in extracting and sharing the information in them. More specifically, I will focus on the need for dedicated data archives and publicly available data analysis tools. Also, I will discuss how the lessons learned can be used as a prototype for an open platform for the characterisation of exoplanets in the future.