



ID de Contribution: 18

Type: Oral presentation

## Characterizing the atmosphere of two warm Neptune-like planets HD 106315 c and HD 3167 c with the HST/WFC3 Camera

*jeudi 11 février 2021 14:00 (15 minutes)*

We present an atmospheric characterisation of two intermediate-sized planets: HD 106315 c ( $R_p=4.98\pm 0.23 R_\oplus$ ) and HD 3167 c ( $R_p=2.74\pm 0.11 R_\oplus$ ) whose results have been published in the ARES IV article, i.e. Guilluy et al 2020. We analysed spatially scanned spectroscopic observations obtained with the G141 grism (1.125 - 1.650  $\mu\text{m}$ ) of the Wide Field Camera 3 (WFC3) onboard the Hubble Space Telescope. We use the publicly available Iraclis pipeline and TauREx3 atmospheric retrieval code and we found a strong water spectroscopic signature in HD 106315 c transmission spectrum corresponding to an abundance of  $\log(\text{H}_2\text{O})=2.1\pm 0.7$  ( $5.7\sigma$ ). We also found evidences of water and carbon dioxide in HD 3167 c's atmosphere with  $\log(\text{H}_2\text{O})=4.1\pm 0.9$  ( $3.2\sigma$ ) and  $\log(\text{CO}_2)=2.4\pm 0.7$  ( $3.3\sigma$ ). Different scenarios including additional contribution of clouds, ammonia and carbon bearing species are discussed. HD 106315 c and HD 3167 c will be interesting targets for upcoming telescopes such as the James Webb Space Telescope (JWST) and the Atmospheric Remote-Sensing Infrared Exoplanet Large-Survey (ARIEL).

### Field

Planetology (including small bodies and exoplanets)

### Day constaints

I will not be available February 10th

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**Classification de Session:** Talk

**Classification de thématique:** Astrophysics