The HD 108236 planetary system was initially announced as consisting of 4 transiting planets (Daylan+2021). Shortly after, the transit signal of a 5th planet was detected in a CHEOPS light curve when observing a transit of planet b (Bonfanti+2021). Here, we present the full characterization of the system, using the full CHEOPS dataset and TESS data. With this, we confirm the presence of the 5th transiting planet with a 29.5 d orbital period. Thus, HD 108236 becomes one of the multi-planetary systems with more than 4 planets orbiting a bright (V=9.2) star.

CHEOPS data: 15 visits (~8.5 d on target) → 16 transits

TESS data: Sectors 10, 11 & 37 → 43 transits

Analysis: Joint modelling of all the photometric data + updated stellar parameters (based on GAIA eDR3).