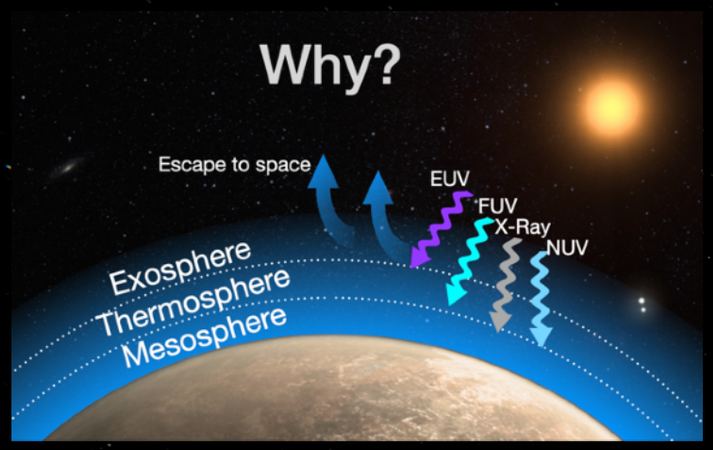
The Normal-Incidence Extreme Ultraviolet Photometer

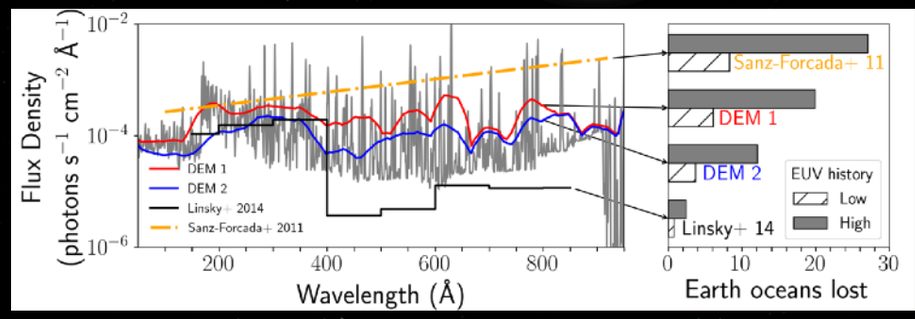
J. J. Drake[1], C. Garraffo[1], B. Wargelin[1], A. Youngblood[2], V. Kashyap[1], B. Fleming[2], K. France[2], J. Mason[2], P. Cheimets[1], M. Barstow[3], P. Testa[1], J. Bookbinder[4], O. Siegmund[5], S. Wolk[1] and the NExtUP Team

[1]Smithsonian Astrophysical Observatory, [2]University of Colorado, [3]University of Leicester, [4]NASA Ames Research Center, [5]University of California Berkeley



Stellar EUV emission is absorbed high in a planetary atmosphere and controls atmospheric loss and evolution.

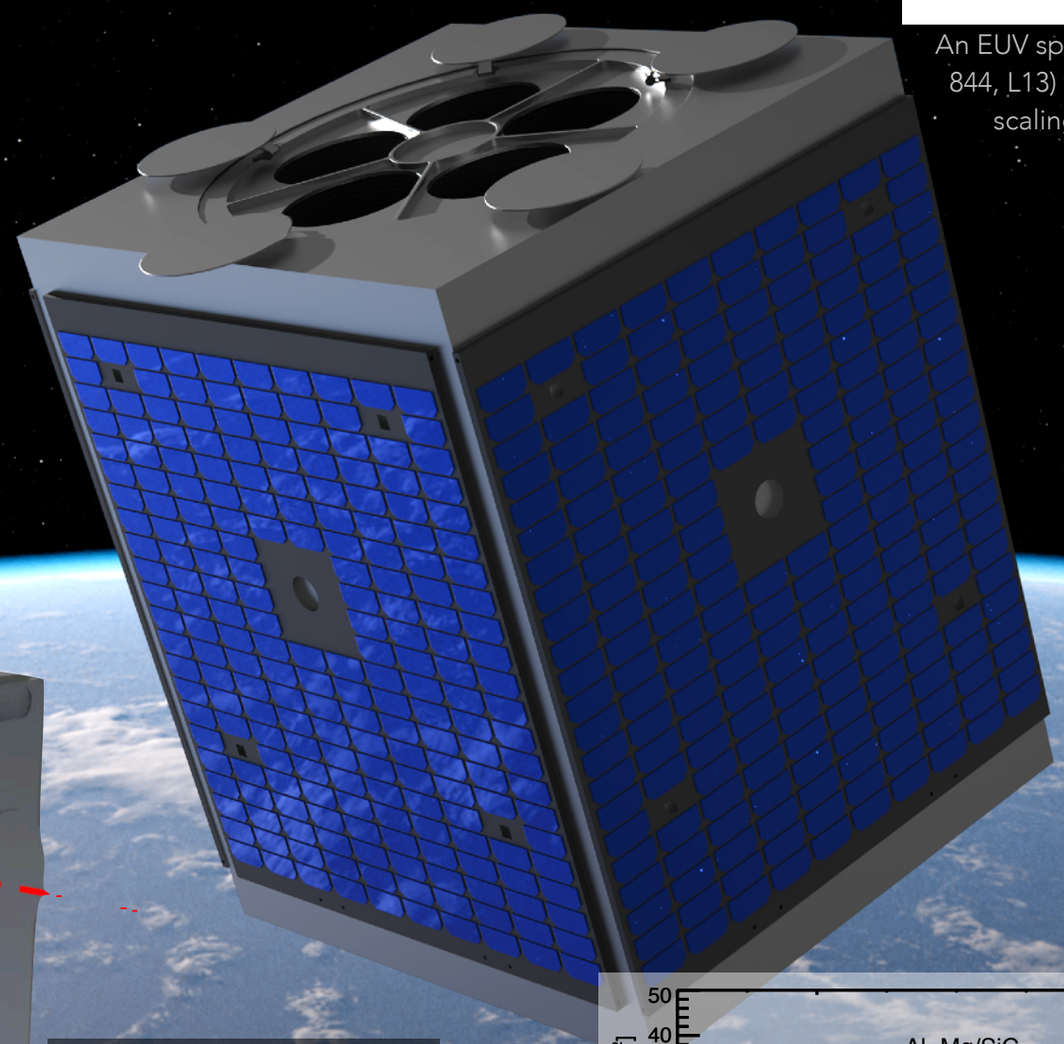
BUT current knowledge of stellar EUV emission is VERY poor. Fluxes are uncertain at the order of magnitude level, leading to large uncertainties in atmospheric evolution models.



An EUV spectral model for Proxima b (Garcia-Sage et al, 2017, ApJ, 844, L13) for two different plausible DEM models compared with scaling relations from the literature (left), and the different atmospheric losses they predict (right).

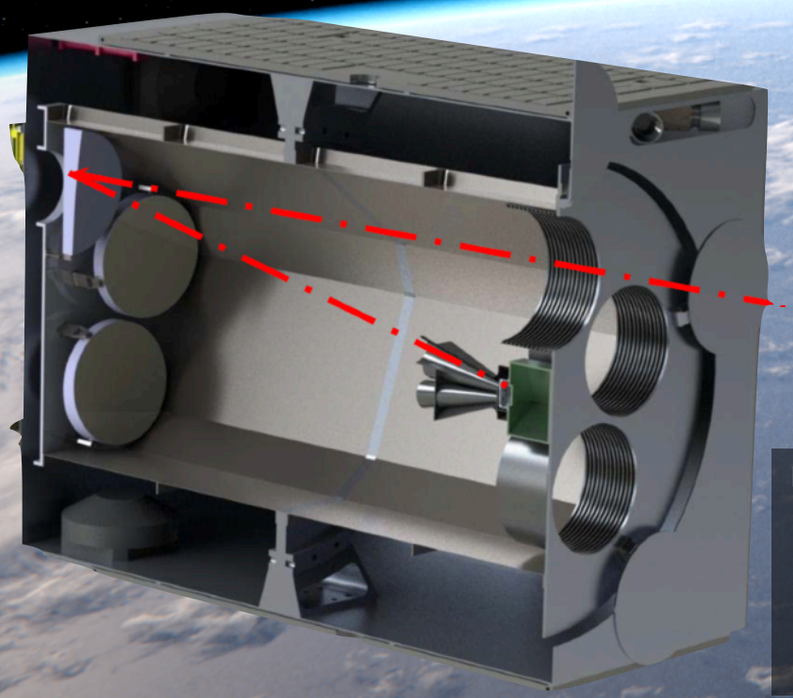
Learn more:

NExtUP The Movie



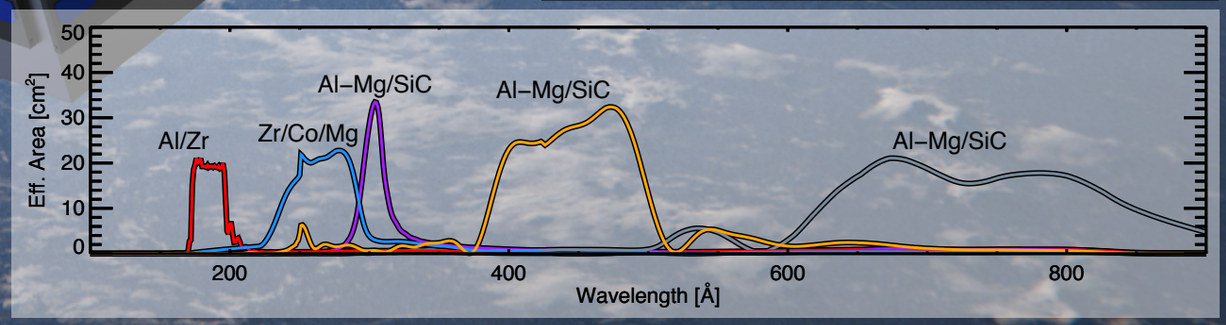
NExtUP will observe up to ~200 stars in a one-year mission with exposure times ranging between 1-200ks:

- **Map out EUV fluxes and flares as a function of spectral type and activity level for F to late M dwarfs**
- **Survey EUV emission of known exoplanet hosts**
- **Perform target of opportunity observations**



NExtUP is a prime-focus EUV telescope with multilayer-coated mirrors imaging and doing photometry in 5 bandpasses using a microchannel plate detector

The NExtUP photometry bandpasses and effective areas cover major EUV emission lines and complexes, including a dedicated He II 304 Å channel



@cosmodrake
www.jeremydrake.org

NExtUP: A smallsat to be proposed as a NASA 2021 Mission of Opportunity

Learn more: https://intotheextreme.org