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Wolf 503b: A 2 Earth Radius Planet Orbiting a Bright, Nearby K-dwarf

Wolf 503b is a newly found 2.03(+0.08 -0.07) R⊕ planet orbiting the bright (J=8.32 mag), nearby (D=44.5 pc) high proper motion K3.5V star Wolf 503. The brightness of the host star makes Wolf 503b a prime target for radial velocity follow-up, HST transit spectroscopy, as well as detailed atmospheric characterization with JWST. Using both archival images and high-contrast adaptive optics images from the Palomar observatory, the possibility of a false positive detection due to a companion or background star has been determined to be extremely low. With its measured radius near the gap (from 1.5-2.0 R⊕) in the planet radius and occurrence rate distribution, Wolf 503b offers a key opportunity to better understand the origin of this radius gap as well as the nature of the intriguing populations of "super-Earths" and "sub-Neptunes" as a whole.