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Proxima b and prospects for exoplanet detections around red dwarfs

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The detection of Proxima b -a possibly terrestrial planet around Proxima Centauri- is the explicit a manifestation of something that should have been obvious for a while. That is, Earth-sized/Earth-mass planets are now easily detectable around red dwarfs, and offer the first chances for more detailed characterization studies of atmospheres (and maybe geophysical processes) beyond the Solar System. With size ratios comparable to those of hot-Jupiters, the transiting fraction of these planets are bound to become the prime source of observational constrains in the short term, especially concerning methods such as transmission spectroscopy. In a longer time-frame, extreme adaptive optics systems combined with high spectral resolution instruments hold the promise for direct imaging of terrestrial planets and obtaining complementary measurements on their atmosphere. I will review the body of evidence justifying the variety and characteristics of the objects to be detected around bright/nearby stars objects in the next few years, as well as the most promising follow-up techniques that should also become available soon.