



The Little Book of Exoplanets

Joshua Winn

Princeton University Press (Jul 11, 2023)

Hardcover \$22.95 (304pp)

978-0-691-21547-1

Belying its modest title, Joshua Winn's *The Little Book of Exoplanets* is an extraordinary, far-reaching astronomy book that describes the exploration of planets outside our solar system.

As this engaging book explains, more than five thousand planets have been discovered since 1995, including rocky super-Earths, hot Jupiters, lava worlds, and puffball planets. In narrating the history of planetary exploration, it profiles dozens of scientists who study these elusive blue dots thousands of light-years away. It notes that, in this evolving field, scientists' expectations even a few decades ago "turned out to be like medieval maps of the world": accurate near home while exaggerating distant landforms and missing entire continents far away.

The book explains technology and theories driving planetary discoveries with clarity. It describes, for instance, how scientists use parallax to calculate distances and apply the transit method, Doppler shifts, spectrographs, and other techniques to predict the radius, orbit, and mass of distant planets. It catalogs planetary systems that are quite different from our own, such as those with a misplaced giant orbiting close to a star or a tightly packed collection of super-Earths and mini-Neptunes. Stars at the center of these planetary systems are also diverse: ninety-five percent of stars are smaller and less luminous than the sun. By studying the planets surrounding red dwarfs, white dwarfs, neutron stars, and binary stars, astronomers raise fascinating questions about planetary formation, habitability, and the future of Earth as the sun ages.

Complex topics—including rules of quantum mechanics and the index of refraction, all essential to planetary science—are explained with remarkable ease. The book is illustrated with dozens of helpful diagrams, and humorous metaphors bring the discussion down to earth, so to speak.

Authoritative, entertaining, and accessible, *The Little Book of Exoplanets* is a succinct yet comprehensive introduction to the dynamic, captivating field of planetary exploration.

KRISTEN RABE (July / August 2023)

Disclosure: This article is not an endorsement, but a review. The publisher of this book provided free copies of the book to have their book reviewed by a professional reviewer. No fee was paid by the publisher for this review. Foreword Reviews only recommends books that we love. Foreword Magazine, Inc. is disclosing this in accordance with the Federal Trade Commission's 16 CFR, Part 255.