**WIZARDS
ALIENS
AND
STARSHIPS**

WIZARDS ALIENS AND STARSHIPS

PHYSICS AND MATH IN FANTASY AND SCIENCE FICTION

CHARLES L. ADLER

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Summary: "From teleportation and space elevators to alien contact and interstellar travel, science fiction and fantasy writers have come up with some brilliant and innovative ideas. Yet how plausible are these ideas—for instance, could Mr. Weasley's flying car in Harry Potter really exist? Which concepts might actually happen—and which ones wouldn't work at all? *Wizards, Aliens, and Starships* delves into the most extraordinary details in science fiction and fantasy—such as time warps, shape changing, rocket launches, and illumination by floating candle—and shows readers the physics and math behind the phenomena. With simple mathematical models, and in most cases using no more than high school algebra, Charles Adler ranges across a plethora of remarkable imaginings, from the works of Ursula K. Le Guin to *Star Trek* and *Avatar*, to explore what might become reality. Adler explains why fantasy in the Harry Potter and Dresden Files novels cannot adhere strictly to scientific laws, and when magic might make scientific sense in the muggle world. He examines space travel and wonders why it isn't cheaper and more common today. Adler also discusses exoplanets and how the search for alien life has shifted from radio communications to space-based telescopes. He concludes by investigating the future survival of humanity and other intelligent races. Throughout, he cites an abundance of science fiction and fantasy authors, and includes concise descriptions of stories as well as a glossary of science terms. *Wizards, Aliens, and Starships* will speak to anyone wanting to know about the correct—and incorrect—science of science fiction and fantasy" — Provided by publisher.

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To Poul Anderson, who wrote it better, shorter, and earlier