

Daydreaming in the Solar System: Surfing Saturn's Rings, Golfing on the Moon, and Other Adventures in Space Exploration

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Combining entertaining scenarios with fascinating facts, *Daydreaming in the Solar System* is a clever, accessible scientific exploration of the planets, moons, comets, and other celestial bodies orbiting the sun.

Each chapter begins with an imaginative adventure story, or “daydream,” that exemplifies the unique qualities of a particular location in the solar system—such as the experience of golfing on the dark side of Earth’s moon; rappelling a canyon formed by volcanic forces on the surface of Mars; skydiving through the exotic, red- and blue-tinted swirls in the bottomless clouds of Jupiter; sailing the wine-dark methane-ethane-nitrogen sea of Saturn’s moon Titan; fossil hunting on Venus where life seems possible despite a dense atmosphere and temperatures exceeding 400 degrees celsius; listening to the “high-pitched ricochets” of sound reverberating on icy Europa; and attempting to grow roses on the barren surface of the asteroid Bennu. The narratives emphasize the huge variety of objects in the solar system and provide tangible comparisons to Earth that engage all the senses.

The ingenious scenarios are paired with breezy, engaging scientific explanations of the history, chemistry, physics, and geological features of the celestial objects in question. Topics addressed include the formation of moons, planets, comets, and asteroids; the implications of circular, eccentric, and synchronous orbits; calculations for determining the surface gravity of objects; and the nature of visible light in various atmospheres. Dozens of informative illustrations—depicting, for instance, the relative size of particles found in Saturn’s rings, the path of Mercury’s complicated elliptical orbit, and the chemical composition of the “oldest solar system materials” found on asteroids—add clarity and insight.

Loaded with intriguing information that’s presented in a playful, conversational style, *Daydreaming in the Solar System* is an engrossing introduction to the astronomy and physics of the solar system.

KRISTEN RABE (November / December 2024)

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