Cosmic Dust from the Laboratory to the Stars

Edited by Rafael Rodrigo, Jürgen Blum, Hsiang-Wen Hsu, Detlef V. Koschny, Anny-Chantal Levasseur-Regourd, Jesús Martín-Pintado, Veerle J. Sterken and Andrew Westphal
 SPRINGER: 2020. 418 PP. £109.99

Dust is ubiquitous in the Cosmos, observed from the Earth's stratosphere to interplanetary, interstellar and intergalactic space. Our Solar System presents the ideal laboratory for us to study the composition and properties of this cosmic dust in order to understand its origins. This collection of nine authoritative reviews focuses on different environments in our Solar System where dust is present, from laboratories on Earth to cometary dust, interplanetary dust, dust expelled from active moons and dust found in the rings of planets like Saturn. Results from the Rosetta mission figure prominently as the most recent highlight in dust astronomy.

A History of the Italian Space Adventure: Pioneers and Achievements from the XIVth Century to the Present

By Giovanni Caprara
 SPRINGER: 2020. 390 PP. £35.99

Italy's launch into space has been nothing short of a real adventure. Starting from the rocketry involved in fireworks, presumably imported from China to Venice in the fourteenth century, to the founding of the Italian Space Agency in the 1980s and its rich contributions to many space missions, this book chronicles the tumultuous journey of the formation of a space-faring nation. Inextricably linked to Europe's journey to space, Italy's contributions to military, industrial and scientific space applications have been numerous and significant. Caprara presents this history in 13 chapters along with archival pictures, with attention paid to the historical, political and geographical contexts within which these developments happened.

Cosmology's Century: An Inside History of Our Modern Understanding of the Universe

By P. J. E. Peebles
 PRINCETON UNIVERSITY PRESS: 2020. 440 PP. £30.00

In the last century or so, cosmology has transformed from a purely theoretical exercise to a data-driven precise research field. Jim Peebles, a Nobel laureate and key contributor to our current understanding of how the Universe came to be, recounts this cosmological revolution. Aimed at the interested layperson or undergraduate student, the book provides a historical and scientific overview of how the concordance cosmological model came to be, the key observations and experiments that support it, and some of its viable, or not so viable, alternatives that have appeared along the way. The last chapter offers Peebles's epistemological view on cosmology as a field and some key take-away points from its journey to maturity.

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