Conquering the Physics GRE (Third Edition)

Yoni Kahn and Adam Anderson

CAMBRIDGE UNIVERSITY PRESS: 2018. 294 PP. £26.99

To many, GRE tests — Graduate Record Examinations — represent an archaic way to evaluate students applying to grad school. Indeed, research shows that GRE scores do not correlate with meaningful measures of success in graduate school. Nevertheless, GREs are still required for the majority of graduate schools in the USA. Yoni Kahn and Adam Anderson update their exam-prep book to the current Physics GRE format and content, provide tips on how to improve your score and timing and include three full-length exams with fully worked solutions.

Life on Mars: What to Know Before We Go

David A. Weintraub

PRINCETON UNIVERSITY PRESS: 2018. 320 PP. £24.95

Mars has captivated the imagination of the public and the attention of the planetary scientific community due to its apparent similarities to Earth and its potential (past and perhaps present) for sustaining life. David Weintraub gives a candid overview of why Mars has been the focus of such attention, explaining the history of looking for life on Mars — in science and popular culture — and how our current understanding of Mars has been shaped. His wry sense of humour permeates the book, making it both an informative and entertaining read.

Gravity! The Quest for Gravitational Waves

Pierre Binétruy

OXFORD UNIVERSITY PRESS: 2018. 256 PP. £19.99

The detection of gravitational waves is arguably one of the biggest discoveries of modern science. Pierre Binétruy explains the context within which this discovery is placed. From gravity as a fundamental force explored by Galileo and Newton, to general relativity, the beginning of the Universe, black holes and gravitational waves, the book covers a lot of fundamental physics and astrophysics. It does so while avoiding equations, using intuitive examples and illustrations instead. The human endeavour of understanding gravity makes for an inspiring story!

Universe in Creation: A New Understanding of the Big Bang and the Emergence of Life

Roy R. Gould

HARVARD UNIVERSITY PRESS: 2018. 288 PP. £17.95

How did life emerge in the Universe? Roy Gould tackles this question with a conversational tone, using examples, metaphors, quotes and historical anecdotes. There is the obligatory astrophysical background of how the Universe was created and the basics of galaxies and planets. But the heart of the book lies in the philosophical side of the discussion. What does our creation say about the Universe? The author flirts with the anthropic principle but mostly retains a sense of agnostic wonderment for the Universe itself.

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