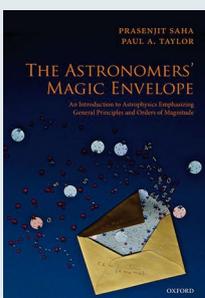


Gemini Flies! — Unmanned Flights and the First Manned Mission

David J. Shayler

SPRINGER NATURE: 2018. 333 PP. £22.50

While lacking the name recognition of the Apollo missions or the 'wow' factor of Project Mercury, NASA's first crewed space program, Project Gemini was a short-lived but intense program of twelve missions, ten of them crewed, in low-Earth orbits that paved the way not only for putting the first astronauts on the Moon but for the whole of NASA's ensuing space program. David J. Shayler gives an authoritative overview of the first three test missions in this book, the first of a series that will cover the remainder of the Gemini project.

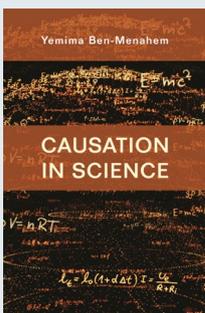


The Astronomers' Magic Envelope

Prasenjit Saha and Paul A. Taylor

OXFORD UNIVERSITY PRESS: 2018. 144 PP. £19.99

Astronomers like the concept of back-of-the-envelope calculations. Such calculations help us get a handle on very complex problems that would otherwise require far more time and effort to solve properly. Prasenjit Saha and Paul A. Taylor build an introductory guide to astronomy on exactly this premise. They deal with fundamentals such as orbital dynamics, celestial mechanics, spacetime and stellar astrophysics while staying at the level of 'order-of-magnitude' calculations. The result is a thin book that will allow a mathematically literate student to get a first taste of the underpinnings of astronomy.

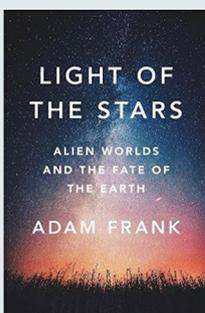


Causation in Science

Yemima Ben-Menahem

PRINCETON UNIVERSITY PRESS: 2018. 224 PP. £30.00

We often discuss cause and effect in our everyday discourse. More fundamentally, natural sciences (specifically physics) aim to place constraints on the causality relations that govern change in the physical world. Yemima Ben-Menahem lays out a complex network of intertwined notions like causality, stability, locality and determinism to try to expose how each of them reflects the way we think about physical problems. The author argues that causation has an important role to play in science, essentially challenging causal eliminativism.



Light of the Stars: Alien Worlds and the Fate of the Earth

Adam Frank

W.W. NORTON & COMPANY: 2018. 272 PP. £20.00

The basic message of Adam Frank's book, echoing a sentiment already expressed by Carl Sagan, is that our civilization is not much different to a 'cosmic teenager' who has a working knowledge of herself and the world around her but lacks the maturity to properly guide herself forward. The author makes the case that as the exploration of Venus and Mars helped humanity properly formulate the theory of the greenhouse effect, so can exoplanets and the search for exo-civilizations inform how we deal with the growing pains of a maturing civilization at odds with its own host planet.

Published online: 3 September 2018

<https://doi.org/10.1038/s41550-018-0570-5>