1. Record Nr. UNINA9910908375403321 Autore Davis A. E. L. <1928-2020.> Titolo Reading the Mind of God: Johannes Kepler and the Reform of Astronomy / / edited by A.E.L. Davis, J. V. Field, T. J. Mahoney Dordrecht:,: Springer Netherlands:,: Imprint: Springer,, 2024 Pubbl/distr/stampa **ISBN** 9789402422504 9789402422481 Edizione [1st ed. 2024.] Descrizione fisica 1 online resource (426 pages) Collana Astronomy and Planetary Sciences, , 2366-0090 Altri autori (Persone) FieldJudith Veronica MahoneyT. J Disciplina 520.92 Soggetti Astronomy Science - History Mathematics Astronomy, Cosmology and Space Sciences History of Science Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Kepler's place in the history of astronomy -- Religion and natural Nota di contenuto philosophy -- Late Humanism -- The geometrical cosmos -- The occult sciences -- Kepler's astrology -- Tycho Brahe and observational astronomy -- Beginning the quest for physical causes -- Kepler's theoretical astronomy: the laws of planetary motion -- Kepler's contributions to optics -- Kepler and Galileo: Copernican cosmology, telescopes and comets -- The Rudolphine Tables -- Kepler's contributions to mathematics -- Working continuously: Kepler's investigations into fluid mechanics -- 'A Warning to Astronomers' --Somnium -- Kepler in Translation -- Kepler's personality and life --Epilogue: Kepler and the historians -- A Kepler Chronology. This volume provides a wide-ranging introduction to Kepler's work, Sommario/riassunto with essays on his religion, his cosmological theories, his work in astronomy, astrology, optics and mathematics and his interactions with Tycho Brahe and Galileo Galilei. Kepler is a major figure in the history

of science. His laws of planetary motion overthrew a tradition, going back as far as the ancient Greeks, of constructing the paths of planets

by combinations of circles; and the derivation of the laws was revolutionary in the way it relied upon detailed agreement with observations. Moreover, the laws explicitly relate the motion and path of each planet to the Sun. Thus, when the tables that Kepler based upon the laws proved to be highly reliable over many decades, this played a crucial part in making heliocentrism acceptable. And many years after Kepler's death the laws themselves played an important part in Newton's derivation of the inverse square law of gravitation in his Principia (1687). In this respect, Kepler can look 'modern'. But his work is grounded in his religious belief that the Universe is the visible expression of the nature of the God who created it. This book, whose chapters are written by leading scholars, is primarily addressed to undergraduate and graduate students of science and the history of science but will also appeal to the general reader with an interest in the history of science.