1. Record Nr. UNINA9910760288303321

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Titolo	Cosmic Rays : Multimessenger Astrophysics and Revolutionary Astronomy / / by Alessandro De Angelis
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	9783031385605 3031385608
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (214 pages)
Collana	Astronomers' Universe, , 2197-6651
Disciplina	539.7223
Soggetti	Astronomy Astrophysics Mathematical physics Nuclear physics Programming languages (Electronic computers) Computer science - Mathematics Astronomy, Cosmology and Space Sciences Theoretical, Mathematical and Computational Physics Nuclear and Particle Physics Programming Language Mathematics of Computing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	The Largest Energies in the Universe -- The Mystery of Cosmic Rays -- Cosmic-Ray Research after the First World War -- Cosmic Rays and the Physics of Elementary Particles -- Fire Under the Ashes: the Discoveries at the End of the 20th Century and at the Beginning of the 21st Century -- Cosmic Ray Research Today: Multi-Messenger Astrophysics -- Cosmic Rays and Climate -- Cosmic Rays and Life -- Cosmic Rays and the Exploration of the Universe -- Cosmic Rays and Archaeology.
Sommario/riassunto	In recent years, cosmic rays have become the protagonists of a new scientific revolution. We are able today to film the Universe with telescopes of completely novel conception, recording information from

many different messengers and accessing previously unknown cosmic regions. Written by a recognized authority in physics, this book takes readers on a captivating journey through the world of cosmic rays, their role in the revolutionary field of multi-messenger astronomy, their production from powerful accelerators close to the surfaces of black holes and compact objects, reaching the highest levels of energy observed in nature, and the implications this has for our understanding of the Universe. Through the stories of pioneering scientists, explorations of cutting-edge technologies, and simple explanations related to particle physics, quantum mechanics, and astrophysics, the book provides an illuminating state-of-the-art introduction to the current state of high-energy astrophysics. The book was written in straightforward yet rigorous language, so as to be accessible to the greater public. For those curious about the cosmos and cosmic gamma rays, nuclei, neutrinos, and gravitational waves, from casual observers to professional astronomers and physicists, the book is a must-read, offering a thrilling adventure into the future of astronomy and particle physics.