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Nota di contenuto	Isotopes -- weights and abundances -- Introduction to the universe -- the baryonic matter -- Element and isotope abundances -- reference collection -- Cosmological nucleosynthesis -- production of H and He -- Stellar nucleosynthesis -- lower mass stars and s-process -- Stellar nucleosynthesis -- r- and associated processes -- Timing of stellar nucleosynthesis -- Chemical evolution of the galaxy -- Introduction to the solar nebula -- The primary solar system objects and related processes -- Chondritic meteorites -- Highly processed meteorites -- A summary of early solar system chronology -- Introduction to the planetary system, earth and moon -- Introduction to planetary

accretion -- Earth accretion -- the giant impact(s) -- The post-accretion silicate earth -- comparison with meteorites -- Core segregation -- Heavy 'crust' on the top of the core -- The early atmo-hydrophere -- Light from the moon -- First look on the Earth -- The plate tectonic concept -- some phenomenology -- Oceanic ridge and island magmatism -- Subduction and island arc magmatism -- Composition of the continental crust -- magmatic, metamorphic and sedimentary processes -- Isotopic records of the evolution of the earth's accessible reservoirs -- Geochemical earth model.

Sommario/riassunto

The Evolution of Matter explains how all matter in the Universe developed following the Big Bang and through subsequent stellar processes. It describes the evolution of interstellar matter and its differentiation during the accretion of the planets and the history of the Earth. Unlike many books on geochemistry, this volume follows the chemical history of matter from the very beginning to the present, demonstrating connections in space and time. It provides also solid links from cosmochemistry to the geochemistry of Earth. The book presents comprehensive descriptions of the various isotope systematics and fractionation processes occurring naturally in the Universe, using simple equations and helpful tables of data. With a glossary of terms and over 900 references, this volume is a valuable reference for researchers and advanced students studying the chemical evolution of the Earth, the Solar System and the wider Universe.