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BOOK REVIEW

Jože PEZDIČ: *Izotopi in geokemijski procesi (Isotopes and geochemical processes)*

University textbook, University of Ljubljana, Geological Department, Ljubljana, 269 p.
(in Slovenian)

“*Izotopi in Geokemijski Procesih*” (Isotopes and Geochemical Processes), is a new textbook on isotope geochemistry written by Jože PEZDIČ in 1999. It has 256 pages accompanied by 96 figures and 10 tables.

The book was reviewed by Prof. Simon PIRC and Jadran FAGANELI.

The book is aimed at geological students, although students of chemistry, biochemistry and other related environmental studies will also find it useful. This text book is non-traditional embracing the broad field of stable and radioactive isotopes. Geochemical phase equilibria in aqueous environments are also included, together with an introduction to the PHREEQE computer programme for geochemical modelling. Isotope fractionation is explained in an elementary way, but further theoretical elaboration of the subject is provided within the sections on relevant applications of the topic.

The five chapters are summarised as follows:

Chapter 1 essentially discusses isotope fractionation within geochemical cycles.

Chapter 2 details the geochemistry of stable isotopes, sampling methods and analytical procedures, concluding with the basic elements of the carbon, nitrogen, oxygen and sulphur cycles. The peculiarities of isotope processes in natural waters, fossil fuels, sediments, biogeochemical materials and ore deposits are also discussed.

Chapter 3 focuses on radioactive isotopes and geochronology. However, the approach is unorthodox, beginning with Tritium and the short lived isotopes ^3He , ^{10}Be , ^{14}C , ^{36}Cl , Rn, ^{210}Pb followed by the K/Ar, Rb/Sr, Nd/Sm, U/Th/Pb series.

Chapter 4 covers the field of isotopic and chemical geothermometers.

Chapter 5 illustrates modelling of aqueous equilibria using the PHREEQE programme.

The value of the book is enhanced by the inclusion of numerous examples of the authors research experiences. References have been carefully selected and are relevant to pedagogical topics. Each chapter concludes with a list of questions which form an essential part of the work. In geochemistry reading alone cannot provide a real understanding of the subject. Ideas are only useful when they have been digested, manipulated and reflected upon: problems provide a necessary incentive to such activity (KAUSKOPF, 1979). Cited examples indicate the broad application of isotopic methods, as well as justifying the inclusion of isotope geology in a programme of undergraduate study. The book is written in Slovenian language, what should not be an obstacle to acceptance into Croatian educational program, which also follows trends in modern geosciences. For all these reasons the book is recommended to those who seek fast and general information on possibilities of isotope geology. It includes, however, a wider auditorium than the student one itself, whom it is primarily intended to.

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