www.univie.ac.at/Mineralogie/EMU

European Mineralogical Union

The EMU, an association of all mineralogical societies in European countries, continues to organise sessions at major conferences, to award a medal for research excellence, and to support such ventures as the *European Journal of Mineralogy*. A particularly important activity of EMU is the organisation of short courses ('schools') dealing with forefront aspects of the mineral sciences. These short courses are taught by international experts and attended by research students, younger researchers, and more experienced scientists. The courses are accompanied by the publication of volumes in the series known as the *EMU Notes in Mineralogy*.

EMU NOTES IN MINERALOGY

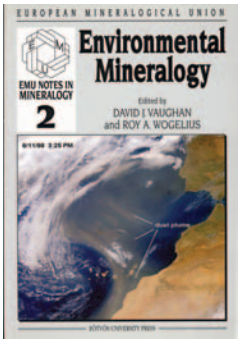
The first six volumes in this series are as follows:

Modular Aspects of Minerals, Volume 1 (1997)

S. Merlino (Pisa, Italy), editor, 448 pages,
ISBN 963 463 1320, 20€ (excl. postage)

Beginning with fundamental aspects, in particular with applications of OD theory, the crystal chemistry of silicates, sulphides, sulphosalts, oxides and oxysalts is discussed from the standpoint of their modularity. The reader is introduced to terms such as building block, polytypism, polysomatic families and homologous series, and to procedures to investigate the concepts which underly them. The widespread availability of high-resolution electron microscopes allows the investigation of the microstructural aspects of materials of geological importance, emphasising the relevance of knowledge of modularity.

Environmental Mineralogy, Volume 2 (2000)



D.J. Vaughan and R.A. Wogelius (Manchester, UK), editors, 434 pages, ISBN 963 463 1333, 20€ (excl. postage)

Environmental mineralogy is a field that calls on both core mineralogical skills and interdisciplinary understanding across the chemical, biological and geological fields. It is an area ideally suited to development of advanced teaching that redefines the boundaries of mineralogy. Analytical, experimental, and computational methods are discussed, and overviews are presented on the mineralogy of soils, marine sediments, atmospheric particles (aerosols), and different kinds of wastes. Also the role of microbial controls and aspects of cultural heritage are discussed.

Solid Solution in Silicate and Oxide Systems of Geological Importance, Volume 3 (2001)

C. Geiger (Kiel, Germany), editor, 466 pages,
ISBN 963 463 1347, 20€ (excl. postage)

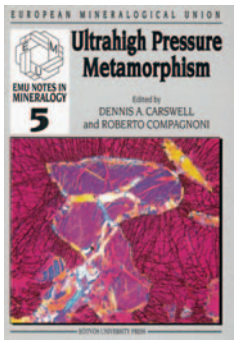
The solid Earth and extraterrestrial samples from sources such as meteorites consist of materials that include many examples of mineral solid solutions. Research on such solid solutions is broadly based, encompassing work undertaken in physics, chemistry, and materials sciences as well as in mineralogy. The chapters in this volume reflect this diversity. The volume begins with an extensive coverage of the thermodynamic approach. The rapid development of enhanced computer power also allows atomistic simulation techniques, and details of the methodology and applications of such techniques are discussed with examples.

Energy Modelling in Minerals, Volume 4 (2002)

C.M. Gramaccioli (Milan, Italy), editor, 425 pages,
ISBN 963 463 5660, 20€ (excl. postage)

Accurate quantum-mechanical simulations have significantly extended our understanding of Earth materials and hold great promise for the future development of the Earth and planetary sciences. Phase transitions, equations of state, elasticity and thermoelastic properties of minerals – topics essential for geophysics – can be studied in this way. The reader is introduced to the energy modelling and computer simulation of crystal structures and properties of minerals. Monte Carlo methods and *ab initio* theories are presented. Individual chapters focus on theoretical aspects and the experimental techniques required to investigate the thermodynamic properties of minerals and the kinetics of mineral systems.

Ultrahigh Pressure Metamorphism, Volume 5 (2003)



D.A. Carswell (Sheffield, UK) and R. Compagnoni (Torino, Italy), editors, 508 pages,
ISBN 963 463 6462, 24€ (excl. postage)

Ultrahigh pressure metamorphism (UHPM) is a normal feature of continental plate collisional orogens and is found worldwide. This textbook volume contributes to our understanding of the UHPM terranes in the Western Alps, Norway, the Kokchetav massif, the Dabie Shan-Suli orogen, the Bohemian Massif and the NW Himalaya. In the context of these examples, one of the main questions to be answered is how deep the upper part of the continental lithosphere can subduct. Mineralogical and geochemical aspects are discussed, along with tectonometamorphic evolution paths. A CD-ROM with additional colour images compiled by F. Rolfo (Torino, Italy) is included with the volume.

Spectroscopic Methods in Mineralogy, Volume 6 (2004)

A. Beran and E. Libowitzky (Vienna, Austria), editors,
659 pages, ISBN 963 463 6624, 24€ (excl. postage)

Spectroscopic methods are particularly valuable in providing information about the local structure of minerals, in contrast to diffraction methods which give information about the long-range order. Theory and application of luminescence techniques, optical absorption, IR, Raman, Mössbauer, NMR, and X-ray absorption (XANES and EXAFS) spectroscopies are discussed. This textbook includes numerous examples to demonstrate the power, and also the limits, of these methods.

A detailed report on just-published volume 7, *Mineral Behaviour at Extreme Conditions*, will be given in the next issue of *Elements*.
R. Miletich (Heidelberg, Germany) editor, 488 pages,
ISBN 963 463 8676, 24€ (excl. postage)

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Copies of the EMU Notes can be obtained via the EMU home page: www.univie.ac.at/Mineralogie/EMU/school.htm#Notes, and also via the publication order lists of several mineralogical societies (e.g. Mineralogical Society of America, Mineralogical Society of Great Britain and Ireland). Please contact the EMU secretary if difficulties are encountered in obtaining any of these (or future) volumes (herta.silvia.effenberger@univie.ac.at).

Peter Ulmer, President
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