

ECMS 4

The 4th European Conference on Mineralogy and Spectroscopy (ECMS4) attracted about hundred researchers in the University of Paris Jussieu, 10-14 September 2001. It was a pleasure for the Laboratoire de Minéralogie-Cristallographie de Paris, who completed 190 years in 1999, to host a conference devoted to new and sometimes unconventional aspects of mineralogy. ECMS4 was following a series of meetings previously organized in Rome (1988), Berlin (1995) and Kiev (1996). The spectroscopy of minerals has rapidly expanded in the last 30 years, with the need of a more complete description of minerals, including trace elements and point defects and expanding to glasses/melts and fluids, in which most minerals grow. Mineral spectroscopy is now a mature field, which makes a link between mineralogy, geochemistry and geophysics. In mineralogy, it is a way to better understand the formation conditions of minerals in rocks and ore deposits, to rationalize their thermodynamic properties under extreme conditions or to give a structural description of the reactivity of minerals surfaces. "Geochemistry of solids" is a word created by W.S. Fyfe 38 years ago, and it describes well the ability of mineral spectroscopy to quantify redox processes or fluid diffusion in minerals and to provide a unified description of element partitioning during mineral formation. Environmental geochemistry relies on mineral spectroscopy to give an atomic-scale description of mineral structure and element speciation at mineral/fluid interfaces, a new interdisciplinary field known as "Molecular environmental sciences". Mineral spectroscopy is also an important part of the understanding of the physical properties of minerals and makes a natural interface with geophysics for important fields such as rock magnetism and remote sensing of planetary surfaces.

This special issue shows some of the contributions that have been presented at the Paris meeting. I want to acknowledge the dedicated work of the Organizing Committee chaired by Yves Fuchs with Stéphanie Rossano, which has efficiently dealt with all the aspects of the meeting. I am glad that the Organizing Committee kept the informal character of the previous meetings, which gives them a distinct flavour, so useful to favour exchanges and discussions and progressively build a community. I also thank the Scientific Committee for his work in the selection of the papers. It was a real pleasure to have in the Scientific Committee the organizers of the previous conferences, Annibale Mottana who organized the first conference in the Academia dei Lincei in Roma in 1988, Klaus Langer who took in charge the second one in the Technische Universität Berlin in 1995 and Alexei Platonov who organized the third conference in the University of Kiev in 1996. Anton Beran, also a member of the Scientific Committee, will organize the next conference in Vienna. Finally, I want to warmly thank the Editors, Annibale Mottana and Eugen Libowitzky for their work in the edition of the contributions presented at the conference.

Georges Calas, president of the Scientific Committee