

Foreword

The I2M (Interfaces and Multi-Materials) conference was held in Aix-en-Provence from May 26 to May 28 1997. About 120 French scientists were gathered at the École Nationale Supérieure des Arts et Métiers. This conference originated from a nationwide research program devoted to the characterization of interfaces in multimaterials (GDR 1108 CNRS “Interfaces et Multimatériaux”). A large number of presentations were, however, from laboratories outside of this research programme. The programme of the conference was organized over four half days. Three of them were dedicated to oral presentations around a scientific theme and the fourth one was reserved for poster presentations and round tables. A total of 60 communications were given. The 3 invited talks were of a general and review type. The first topic was “Microanalysis and concentration profiling” and the afternoon started with an invited presentation by D. Blavette on “Interfaces nanoanalysis by atomic tomography”. The second session was devoted to “electronic distributions and atomic arrangements” and it started with an invited contribution by V. Pontikis on “Numerical simulation of internal interfaces”. The third session focussed on “Residual stresses and their relationship with the microstructure”. An invited talk by J. Grilhe entitled “Mechanisms of stress relaxation in thin films on substrates” started the last morning.

This issue contains a selection of 10 papers showing the originality of the I2M conference. These different contributions span a large field of research activities from very fundamental studies on the mechanisms of epitaxial growth to more applied investigations on materials such as steels. This reflects very well the importance of interfaces in very different fields related to physics and chemistry. Whereas it is quite generally recognized that interfaces play a key role in determining the properties of materials, the proper way to characterize them on an atomic scale remains an open question.

The success of the I2M conference has been the consequence of the work of a number of colleagues from ENSAM and laboratories from the Aix-Marseille area (EDIFIS, MATOP, MECASURF, SERMEC). We cannot quote them here but wish to thank them all. A number of companies have contributed to the funding of the conference: Jeol, Philips, Omicron. We thank them for their support. Finally we wish to acknowledge the support of CNRS, Université Aix-Marseille III and ENSAM.

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