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Budapest

APPLICATIONS OF THE MÖSSBAUER EFFECT

Volume I

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Conference on the Applications
of the Mössbauer Effect Part I**

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PREFACE

ICAME'89, the 1989 International Conference on the Applications of the Mössbauer Effect, was held in the Budapest Convention Center, Budapest, Hungary, from 4th to 8th September. The present volumes of *Hyperfine Interactions* contain the Proceedings of ICAME'89. Twenty years after ICAME'69, held in Tihany, Hungary, ICAME'89 became the second conference of this series to be held in Hungary. Recent ICAME meetings were held in Melbourne (1987), Leuven (1985) and Alma-Ata (1983). We look forward to ICAME'91, which is due to be held in Nanjing.

ICAME'89 was attended by 431 participants from 42 countries. The scientific programme of the conference contained 17 invited lectures and 50 oral contributions. The rest of the contributions were presented in four poster sessions and rapporteurs summarized the main results achieved in different fields. The decision not to hold parallel sessions was intended to stress the opinion of the ICAME Board on the closeness of scientific ties between various research topics present in Mössbauer spectroscopy.

A special session and two workshops were devoted to problems of particular importance, such as surface phenomena, low dimensional systems, high- T_c superconductors and coherent phenomena. These sessions included several guest talks, some oral presentations and lively discussions.

Due to the favourable geographic location of Hungary the number of participants was predictably high. In view of this it appeared to be impossible to referee all papers at the conference (practically during – or instead of – the poster sessions). So we decided to ask for non-camera-ready manuscripts two months before the conference. We were well aware of the additional work that this would create but we do hope that the result justifies the decision. We are very grateful to the Publisher for agreeing to undertake the huge extra work of typesetting all the manuscripts. The papers that were submitted for publication by the deadline (over 70%) were reviewed prior to the conference. The rest of the refereeing was done in the usual way, i.e. during the meeting. The painstaking work of the referees resulted in correcting 68% of the papers, thereby enhancing the quality of this special issue so that it corresponds to the regular scientific standards of *Hyperfine Interactions*. This involves an immense amount of work by the referees; the editors wish to express their sincere thanks for all the help.

The Proceedings includes a total of 411 papers. This number corresponds to 83% of the manuscripts received. Unfortunately, 13% of the submitted contributions had to be returned since the authors of these reports were not registered at the conference. Another 5% of the manuscripts were not accepted. The high number

of papers in this Proceedings is still considerably less than the number of contributions (761) in the abstract booklet. This is mainly due to the fact that many scientists were unable to obtain funds to attend the conference.

Many respected friends contributed to the success of the conference by acting as Session Chairpersons. The International Advisory Committee put forward the suggestions for invited speakers. The difficult task of selecting the invited and guest talks as well as the oral presentations was done by the International Programme Committee. A major part of the work was taken over by the members of the Local Organizing Committee. Sincere thanks are also due to the staff of the Budapest Convention Center.

The organizers of ICAME'89 are grateful for the help of the sponsors and for the assistance of the supporting institutions listed on the previous page.

The Editors of the Proceedings wish to thank Drs. W.H. Wimmers, Science Publisher, for his effective cooperation which resulted in the rapid publication of these volumes.

The Editors
January, 1990

OPENING ADDRESSES

Lajos KESZTHELYI

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Ladies and Gentlemen, dear Colleagues, Members of the International Family for the Applications of the Mössbauer-effect

It is a great honour for me to welcome all of you here on the occasion of the International Conference on the Applications of the Mössbauer-effect. My greetings come in the name of the Hungarian Academy of Sciences and also in the name of the pioneers of this field in Hungary. It is a great pleasure for all of us that you selected Hungary to host the Conference after exactly 20 years, for the second time.

I mentioned the International Mössbauer Family with intention. We welcome them with special feelings. They are those members of the family, who seem to be faithful to their former decision to work in the field of the Mössbauer-effect.

As you all know, the Mössbauer-effect was discovered 31 years ago. In so many years many people, who had started to work in this field, changed their interest like me, who is now working in biophysics and I met Prof. Hans Frauenfelder, the organizer of the first International Mössbauer Conference here, in Budapest, while he was attending the Conference on Photobiology, a week ago. However, luckily enough, there are new young people, who joined this topic and work on it with enthusiasm. The presidency of the Conference in Hungary was overtaken from Prof. L. Pál (who was the president in 1969) by four juniors. I hope you will be satisfied with their work.

An interesting question arises, whether we have in the Mössbauer family young people present, who are 31 years old, or in other words, who were born in 1958. The organizers would like to extend a special greeting to them. Please, be present at the reception tonight.

Now, I wish you a really successful Conference, progress in understanding the Nature through the application of the Mössbauer effect. Do not forget to look round in Budapest in your free time and enjoy the hospitality of our country.

I now declare the Conference open.

Thank you
Lajos Keszthelyi

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