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JOURNAL OF ELECTRON SPECTROSCOPY AND RELATED PHENOMENA

EDITORS: C. R. BRUNDLE AND E. HEILBRONNER

AN INTERNATIONAL JOURNAL DEVOTED TO ALL ASPECTS OF ELECTRON SPECTROSCOPY—INCLUDING THEORETICAL STUDIES AND OTHER SPECTROSCOPIC MEASUREMENTS OF RELEVANCE TO THE FIELD OF ELECTRON SPECTROSCOPY

ISSUE IN MEMORY OF PROF. VLADIMÍR ČERMÁK

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FOREWORD

This issue of the Journal of Electron Spectroscopy and Related Phenomena is devoted to articles dealing with Penning ionization and related topics in memory of the late Dr. Vladimír Čermák who frequently published in this Journal and was a member of the Editorial Board from 1972 until his untimely death in January of 1980. To the readers of this Journal Dr. Čermák is best known for his pioneering experimental and theoretical studies of Penning ionization and associative ionization, which has now fully developed into the field known as Penning ionization electron spectroscopy (PIES). It was through systematic comparisons of the electron energy distributions that Dr. Čermák was able to discover many facets of the process of energy transfer between rare-gas metastable species and atoms and molecules. These included the observed shift and broadening of the Penning electron energy peaks due to the presence of interaction potentials in the colliding system and autoionization occurring over a range of interparticle distances, the detection of associative ionization processes, the discovery of many previously unknown autoionizing states of atoms, and the observed ionization enhancement for certain types of molecular electrons. In addition to his extensive work in PIES, Dr. Čermák made major contributions in mass spectrometry, including studies of highly excited Rydberg states of atoms, and polarography.

HARTMUT HOTOP
ANDREW J. YENCHA
(Editors)



VLADIMÍR ČERMÁK

On 4 January 1980, one of Czechoslovakia's leading physical chemists died suddenly in Prague. Dr. Vladimír Čermák was a Senior Scientist of the J. Heyrovský Institute of Physical Chemistry and Electrochemistry, Czechoslovak Academy of Sciences, Prague, at the time of his death at the age of 59.

Dr. Čermák was born on 5 July 1920, in the Southern Bohemian city of České Budějovice. Until his death, this part of Czechoslovakia remained as his favorite country setting. His early schooling was completed in Prague. During World War II, Dr. Čermák was employed in the chemical industry.

At the conclusion of the war he entered Charles University and was a student and research associate of Professors Hrdlička and Heyrovský. Following the receipt of his Ph.D. degree in 1949 for his work in the fields of polarography and electrochemistry, Dr. Čermák joined the Laboratory of Physical Chemistry of the newly formed Czechoslovak Academy of Sciences. As a founding member of this laboratory he was instrumental in molding the future eminence of what is known today as the J. Heyrovský Institute of Physical Chemistry and Electrochemistry.

During his early years in the Laboratory of Physical Chemistry he was a member of a team of four who constructed the first mass spectrometer (a Nier-type instrument) in Czechoslovakia, for which a National Prize was awarded in 1954. His early interest in mass spectrometry was in the analyses of gases and organic compounds. In 1959, his mass-spectroscopic interests turned to the study of collision processes within the ion source. These studies included: ion-molecule reactions of electronically excited ions, charge-transfer reactions using a modified Nier-type ion source to obtain breakdown curves, highly excited Rydberg states of rare-gas atoms, and associative and Penning ionization employing rare-gas metastable species. It was the last of these studies that led him in the period 1966–1968 to develop Penning ionization electron spectroscopy (PIES) in analogy to photoelectron spectroscopy and which was to remain his major research interest for the duration of his life.

Dr. Čermák was twice a Visiting Fellow of the Joint Institute for Laboratory Astrophysics of the University of Colorado, Boulder, CO (1964–1965 and 1969), and he spent the years 1969–1970 as a Visiting Professor, Université de Paris-Sud, Orsay. These periods abroad were instrumental in his fully developing the PIES method. He authored 63 scientific papers and was co-author of the book *Ion-Molecule Reactions* with E. W. McDaniel, A. Dalgarno, E. E. Ferguson and L. Friedman (Wiley-Interscience Series in Atomic and Molecular Processes, Wiley-Interscience, New York, 1970).

In 1968, Dr. Čermák was awarded the Doctor of Science, a very high scientific honor in Czechoslovakia, and in 1977, the Marcus Marci Medal for his contribution to the advancement of spectroscopy in Czechoslovakia.

Dr. Čermák's scientific achievements and contributions are well known. Equally well known is that he was a humanist. He was also a true lover of nature, often taking long walks in the hills near Prague and in Southern Bohemia which he loved so. He will be long remembered and dearly missed by all who knew him.

ZDENEK HERMAN

*J. Heyrovský Institute of Physical
Chemistry and Electrochemistry,
Prague, Czechoslovakia*

ANDREW J. YENCHA

*Department of Physics,
State University of New York at Albany,
New York 12222, U.S.A.*