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Foreword

Two or three decades ago nobody in mass spectrometry community would take seriously a method like the time-of-flight technique. Even in the beginning of the eighties this method was something special for physicists or physical chemists. Real mass spectrometry occurred in big machines together with elaborate techniques at that time. Today the situation has completely changed. If a young student opened the extended abstract book of any of the mass spectrometric conferences, his impression would be that there is nothing else but time-of-flight mass spectrometry.

This technique has found its entrance to almost every area—chemistry, biology, physics, material sciences, etc.—where mass spectrometry is applied to solving analytical problems. The secret of the time-of-flight mass spectrometry is bound to its simplicity. A bunch of ions is given the same kinetic energy traveling in vacuum in a field-free tube. The only

measurement to be conducted is the travel time of the ions from a starting point to the detecting system.

This small issue of the *International Journal of Mass Spectrometry* is devoted to the current progress of time-of-flight mass spectrometry. Of course it incorporates some reminiscences of the early days of TOF, as shown by one of the great contributors to time-of-flight mass spectrometry, Boris A. Mamyrin. On the other hand, theory and the further development of this mass spectrometric technique is given by Guilhaus as well as by Ioanoviciu. Applications of the technique to certain problems in physical organic chemistry and physics are covered by all other contributors showing the huge variety of this technique.

I hope that the reader will get the impression in which direction this beautiful technique is moving.

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