FOREWORD

The papers in this issue were originally presented at the IEEE Seminar on Intelligent Measurement Systems, sponsored by the IEEE Hungary Section, held at and organized by the Department of Measurement and Instrument Engineering, Technical University of Budapest, June 13-15, 1988. Thus, you are in fact holding in your hands a kind of proceedings, though not all the actually presented lectures have been published in this form. On the other hand, they were more carefully prepared and corrected by the authors than conference papers usually are. We are convinced that the quality of these papers does deserve this way of publication.

The contributions can be classified into three groups.

The first two papers focus on the intelligence itself that can be brought into systems. SCHOUKENS, PINTELON and RENNEBOOG present a novel maximum likelihood method for the parameter estimation of dynamic systems, while VAN COILE treats the solution of the text-to-speech conversion problem, which is one of the key issues in man-machine interfacing.

The next three papers deal with the design and application of instruments. FÜRST and FLECK describe a modern oscilloscope with several built-in signal processing facilities, MIN treats vector analyzers, and VIEHBÖCK and FÜRST address the design of the key element of fast digital analyzers, the A/D converter.

Last but not least different industrial applications of intelligent instrumentation are presented. OTTO describes an error reduction method for nuclear belt weighers, HÄMMERLI and ZWICKY present a novel method of rotor speed measurement for induction machines, and SCHUSTER deals with the realization of adaptive PID controllers.

Third in the series of Department seminars, this one has been successful again, providing a lot of opportunities for informal discussions and exchange of experience. We hope that the tradition of Department Seminars can be continued through the next one, in 1990.

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