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Preface

This special issue is dedicated to the Symposium "Powder Characterisation for Advanced Materials Manufacture" which was held in Gijón, Spain from 16 to 20 June 1997. About 150 participants from 34 countries attended the meeting. New results were reported in 25 invited lectures, 31 presentations and 45 posters.

During five days, ideas were discussed and exchanged in a friendly atmosphere, which mixed technical work with social activities.

Powder processing is likely to remain the major manufacturing route for ceramics and certain other classes of special materials. It is now recognised that very high quality powders are essential for the development of advanced ceramics, cermets and alloys. The most important requirements for the manufacturing of these materials are absence of aggregation, the presence of uniform submicron particles with well-defined characteristics and perfect control of surface properties. New synthetic preparative procedures are being developed and are under investigation, and the use of additives that facilitate sintering remains under investigation. All these topics were discussed in detail during the congress.

The main objective of the Symposium "Powder Characterisation for Advanced Materials Manufacture" was to make an inventory of the characterisation techniques of powders and to evaluate the potential of the main techniques and the emergence of promising new methods.

At the Sub-Committee of the International Union of Pure and Applied Chemistry (Commission 1.6), there was recognition of a need for clear definitions and solid guidelines for the characterisation of the powders used in advanced materials manufacture. Professor B. Delmon, Professor S. de Aza, and Professor J. Pajares charged the INCAR's Ceramics Group with the task of organising this Symposium and provided all the necessary contacts at the international, national and regional levels.

Many people from my own group enthusiastically participated and worked hard for more than a year for this symposium to be a success. Among them, I want to put emphasis on the work done by Miss G. Lanier, Dr J. M. Gómez, Mr M. Schehl, Mr S. Menendez, Miss C. Dominguez, Dr E. Jaimez, Mr J. C. García, Miss A. M. Espino, Mr D. Bohrer and Mr F. J. Sanchez-Castrillo. The latter was responsible for the design of the whole documentation given to each participant.

I also wish to acknowledge colleagues who participated in this Symposium and who contributed manuscripts for publication. The conditions for publishing the papers were the same as for the normal Journal review procedure. I would like to thank all the referees for their prompt answers and helpful comments in reviewing the manuscripts.

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I believe the original objective—to provide a forum for discussing the fundamental guidelines for the characterisation of powders—was achieved.

It is hoped that the outcome of the Symposium forms a collection of useful recommendations for powder characterisation in the field of high performance materials and that this publication will be useful in research laboratories and industrial companies all over the world.

Ramón Torrecillas
Guest Editor