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Preface

The 8th UECT (Ulm Electro-Chemical Talks) on Electrochemical Energy Conversion and Storage were held on 20 and 21 June 2002 at the Edwin-Scharff-Haus in Neu-Ulm (Germany). The 221 participants from 20 countries attended the 32 full paper and 20 poster presentations, organized in eight sessions, with seven sessions dedicated to the full papers and one poster session. In detail, the special objective was to cover progress in the development of battery and fuel cell technology for automotive and stationary applications as well as aging and life time issues of batteries and fuel cells. For the battery systems, the focus was on contributions for automotive applications, while the fuel cell papers covered stationary, portable and automotive applications.

The response to the 8th UECT was even greater than that to the previous meetings and thus confirmed the concept of which the organizers started with the 6th UECT in 1998: The conference is scheduled every 2 years and lasts for 2 days. Within the scope of electrochemical energy conversion and storage, most recent and urgent problems are highlighted by scientific as well as application oriented papers. The joint organizers—the Center for Solar Energy and Hydrogen Research in Ulm, the DaimlerChrysler Research Center in Ulm, and the University of Ulm—define the subject to be covered and take a selection out of suggested papers, with invited papers in addition. There are no parallel sessions; all contributions are made in English.

The scope of the conference, together with the unique common competence of the organizers in Ulm in the field of electrochemical energy conversion and storage, which covers research as well as development and application, has promoted the conference from a local meeting to a widely accepted event in Europe. This is confirmed by the contributions of well recognized key-note speakers.

From the 8th UECT papers, a selection of 40 contributions is contained in this special issue of the Journal. It reflects the present development needs, including tools how to achieve them. For automotive storage systems, the focus is on high power systems which are necessary for optimum energy efficiency. Improved reliability, cycle life and, in the first place, low cost are among the main requirements. The same targets hold for fuel cells in vehicle applications, which have in addition to fulfil principal requirements like improved low temperature and start-up performance before they may enter the vehicle mass market. Cost reduction is anticipated by broadening the fields of application, due to economy of scale.

The 9th UECT are scheduled to take place on 17 and 18 May 2004. Beside the general topic progress in the development of batteries and fuel cells special attention will be given to the behavior of electrochemical power sources in the temperature limits as well as dynamic behavior of electrochemical power sources.

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