

## Preface

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The 20<sup>th</sup> Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating was held in the Alfried Krupp Wissenschaftskolleg, Greifswald, Germany, on May 14-17, 2018. The local organization was provided by the Max-Planck-Institut für Plasmaphysik Greifswald.

The programme was organized around the traditional four main topics represented by EC theory, EC experiments, EC diagnostics and EC-related technology. The workshop was attended by 84 participants from 15 countries. There were 11 invited and 28 oral presentations. The contributions on the four topics listed above were summarized at the end of the workshop by A. Ram, Y.-S. Bae, H. Oosterbeek and J. Jelonnek, respectively. The present proceedings collect a total of 57 papers.

The quality of the presentations, the liveliness of the discussions after the talks and during the poster sessions, and the presence of many young scientists testifies not only the intense research activity in the field of EC waves and related technologies, but also its attractiveness for new researchers. This is expected to be even more the case in the future, given the key role that EC heating and diagnostic systems are expected to play in a fusion reactor. Furthermore, the strong interaction between the participants, in conjunction with the numerous attendance, confirmed the importance of this workshop series as a forum allowing leading experts in the field to discuss present results and future plans at a level of detail hardly achievable in a different context.

The next meeting (EC21) is planned at the ITER premises in spring 2020. The sites of EC20 and EC21, Greifswald and Cadarache, emblematically represent the tight connection between the work of the EC-community and the current fusion research programme. Both W7-X, the latest major fusion experiment to go into operation, and ITER, the next crucial step on the way to controlled nuclear fusion, rely on EC waves for their very operation. We hope that these proceedings display a useful snapshot of the status of our progress in the field.

Many persons deserve a special thank for their support before, during and after the workshop. In particular, the local organizing committee provided a smooth and flawless management of the meeting and a very interesting social programme. The summary speakers had to sacrifice a considerable part of their time in Greifswald for the preparation of their talks and did an excellent job. Last but not least, we gratefully acknowledge the effort of the reviewers of the papers appearing in the present proceedings.

The members of the Local Organizing Committee were  
Heinrich Laqua (chair, scientific programme)

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Hans Oosterbeek (scientific coordinator)  
Maria Radau (conference secretary, registration)  
Claudia Schönian (conference secretary, registration)  
Beate Kemnitz (public relations)  
Karin Schier (finances)  
Andrea Kleiber (website)

The members of the International Programme Committee were

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