

Preface

The 22nd International Toki Conference on “Cross-Validation of Experiment and Modeling for Fusion and Astrophysical Plasmas” was held in Toki on November 19 to 22, 2012, organized by the National Institute for Fusion Science (NIFS), National Institutes of Natural Sciences. This was the twenty-second meeting of a series that originated in 1989, when the National Institute for Fusion Science was established. The purpose of the 22nd Conference was to discuss the validation of theoretical models and simulations by experiments and the interpretation and prediction of experimental data by models. The topics selected for the Conference were as follows:

1. Validation of modeling in fusion research
2. Numerical simulation and observation in astrophysical plasmas
3. Transport (modeling, experiment and observation)
4. Reconnection (theory, simulation, experiment and observation)
5. Interaction between energetic particles and waves in plasmas
6. Plasma-wall interaction (modeling, experiment and observation)
7. Plasma diagnostics for cross-validation
8. Atomic processes in laboratory and astrophysical plasmas
9. Scientific visualization

The outline of the Conference is available at <http://www.nifs.ac.jp/itc/itc22/index.html>.

This special issue of Plasma and Fusion Research (PFR) contains papers which were presented at the Conference and accepted for publication after peer review according to the standards of the PFR. The guest editors of this special issue are as follows:

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Atsushi MASE
Chairperson of Guest Editors
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