

Preface

The 17th International Toki Conference on Physics of Flows and Turbulence in Plasmas took place in the Ceratopia Toki, Gifu, Japan, 15-19 October 2007, as a joint meeting with the 16th International Stellarator/Heliotron Workshop. The conference was hosted by the National Institute for Fusion Science (NIFS). The Toki Conference has been organized by NIFS as an annual meeting since NIFS was established in 1989. The Stellarator/Heliotron workshop has been biennially organized within the framework of the International Energy Agency Implementing Agreement on the Stellarator Concept and covers all aspects on fusion research in helical systems. The Joint Conference therefore covered wider area of fusion study by including attractive themes of “flows and turbulence” and “Stellarator/Heliotron research”. The topics emphasized for the Joint Conference were (1) Flows and turbulence in Plasmas, (2) Recent experimental projects, (3) Transport and confinement improvement, (4) MHD equilibrium and stability, (5) Turbulence and transport, (6) Particle and power handling, (7) Divertors and impurity control/transport, (8) Plasma heating, (9) Diagnostics, (10) Configuration optimization, (11) New devices and (12) Reactor studies. Two plenary talks, one review talk, two tutorial talks and 23 invited talks were presented in addition to 201 contributions as posters.

This special issue of *Plasma Fusion Research* (PFR) contains the invited and contributed papers submitted to PFR Regular Article as an extended version of the conference proceeding. All papers have been assessed according to the standards of the PFR journal and examined by referees selected from PFR guest editors. The guest editors for this special issue were as follows;

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