## Preface

The 19th International Toki Conference on Advanced Physics in Plasma and Fusion Research was held in Toki through 8-11 December 2009, organized by the National Institute for Fusion Science. This was the nineteenth meeting of a series that originated in 1989, when the National Institute for Fusion Science was established. The programme covered a wide range of research field such as basic plasma physics, nuclear fusion research, astronomy, and atomic processes. The topics selected for the conference were as follows:

- 1) Transport and Confinement
- 2) Turbulence and Flow
- 3) MHD Phenomena
- 4) Wave-Particle Interaction
- 5) High-Energy Density Plasma
- 6) Edge Plasma and Steady-State Physics
- 7) Heating and Diagnostics
- 8) Advanced Plasma Science.

This special issue of Plasma and Fusion Research (PFR) contains 118 selected papers among 40 oral papers (plenary, special, invited, contributed oral and summary papers) presented in sessions devoted to the topics above and 190 contributed papers in poster sessions. These papers have been accepted for publication after being peer-reviewed through the processes administered by the conference organizing committee and the editors listed below:

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NINS: National Institute of Nature Sciences NIFS: National Institute for Fusion Science

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Katsumi Ida Chairperson of Guest Editor Toki, 15 June 2010