

# PREFACE

## SIXTH INTERNATIONAL TOKI CONFERENCE ON PLASMA PHYSICS AND CONTROLLED NUCLEAR FUSION— RESEARCH FOR ADVANCED CONCEPTS IN MAGNETIC FUSION

MASAMI FUJIWARA and HIROMU MOMOTA

*National Institute for Fusion Science, Nagoya, Japan*

The International Toki Conferences on Plasma Physics and Controlled Nuclear Fusion Research is a series of annual international conferences that has been hosted by the National Institute for Fusion Science since 1989. The Sixth International Toki Conference (ITC-6), held in Toki-city, Japan, November 29–December 2, 1994, was held under the auspices of the Gifu prefecture, Toki-city, the Japan Society of Plasma Science and Nuclear Fusion Research, and the Fusion Science Organization and was sponsored by the Ministry of Education, Japan.

Each year, the subjects of the International Toki Conferences have been chosen to meet the needed direction of research on plasma physics and controlled nuclear fusion. The subject of ITC-6 was “Research for Advanced Concepts in Magnetic Fusion—Physics and Related Technologies.” The conference was organized to stimulate research of fusion approaches alternative to a conventional tokamak concept by reviewing progress in the development of advanced concepts and discussing fundamental processes and reactor prospects of advanced concepts.

After evaluation by the Program Committee, the ITC-6 Conference Committee accepted 125 papers for presentation at the conference. The program included a special presentation, 7 review talks, 14 invited comprehensive papers, and 103 contributed papers. The main topics of the papers were helical systems, reversed field pinches, compact tori such as field-reversed configurations and spheromaks, mirror traps, advanced or innovative tokamak concepts, magnetohydrodynamic equilibrium and stability, confinement and transport, steady-state sustainment of configurations, and particles or heat control.

The proceedings includes manuscripts submitted by the participants during the conference and reviewed by international reviewers organized by the Program Committee. The Conference and the Program committees are grateful to all participants who collaborated with us in discussing the presented papers, in enjoying the associated social activities at Toki-city, and in preparing the proceedings.