PREFACE

JOINT CONFERENCE OF NINTH INTERNATIONAL CONFERENCE ON OPEN MAGNETIC SYSTEMS FOR PLASMA CONFINEMENT and THIRD INTERNATIONAL WORKSHOP ON PLASMA MATERIAL INTERACTION FACILITIES FOR FUSION RESEARCH

T. IMAI

Plasma Research Center, University of Tsukuba, Ibaraki, Japan

The occasion of the publication of this *Transactions of Fusion Science and Technology (Trans. FS&T)* is marked by sadness at the passing on November 6, 2012, of Professor Eduard Pavlovich Kruglyakov, Russian Academy of Sciences. Prof. Kruglyakov was a founder of the International Conference on Open Magnetic Systems, and from its first iteration, he was a key member of the International Program Committee. Prof. Kruglyakov's many distinguished achievements will live on in many areas of science, especially plasma physics and fusion research.

The Ninth International Conference on Open Magnetic Systems for Plasma Confinement (OS2012) was held at Epochal Tsukuba International Congress Center in Tsukuba Science City, Japan, August 27–31, 2012. OS2012 was held jointly with the Third International Workshop on Plasma Material Interaction Facilities for Fusion Research (PMIF2012), aiming for the synergy that would result from joining the two conferences. OS2012-PMIF2012 was organized by the Plasma Research Center of the University of Tsukuba, and PMIF2012 was organized by the Japan Society of Plasma and Fusion Research. There were 134 scientific presentations in total, including 65 oral presentations. The International Program Committee selected not only the presentations but also the papers to be published in *Trans. FS&T*. These papers were approved by the reviewers as well as the OS2012 publication chair, Dr. I. Katanuma.

The topics discussed at OS2012-PMIF2012 covered a wide range of physics and technology issues related to plasma and fusion research, especially concerning the open magnetic concept, such as plasma transport, turbulence, magnetohydrodynamic stabilization, plasma diagnostics, plasma heating, direct convertor, and various applications. In addition to mirror-based issues, plasma-wall interactions and edge-plasma physics highlighted the synergy of both conferences. The papers in this *Trans. FS&T* detail the progress made in these areas.

It has been agreed that the tenth conference (OS2014) will be held in Korea in 2014 hosted by National Fusion Research Institute, Korea.

Finally, the members of the Organizing Committee are grateful to the American Nuclear Society for its cooperation in the publication of these papers and in particular to Dr. Nermin A. Uckan, editor of *Fusion Science and Technology* and *Trans. FS&T*.