

Guest Editorial

Second Triennial Issue of Images in Plasma Science

THERE has been rapid growth in the development and use of multidimensional plasma diagnostics and simulations during the last few years. Large amounts of spatially, temporally, and energy resolved data are generated using these techniques. Were it not for graphical visualization, it would be difficult to synthesize and analyze the vast amounts of data which are generated. When expertly produced, even single images can produce substantial insight about the relevant physical phenomena, in addition to being works of art in their own right. Visualization also allows us to effectively communicate often esoteric, though interesting, details of plasma science to nonexperts.

To acknowledge the important role that visualization plays in plasma science and to promote mutual exchange of effective visualization methodologies, a Special Issue on "Images in Plasma Science" was published in the IEEE TRANSACTIONS ON PLASMA SCIENCE in February 1996. Following an enthusiastic response from the plasma community, the topic of the Special Issue was promoted to a regular triennial feature and the second volume in this series appears as this issue. The response from the plasma science community has been encouraging for this second Special Issue as well. We received a large number of very well written papers with compelling images. These papers cover a broad range of topics including high temperature plasmas, laser produced plasmas, plasma materials processing reactors, plasma lighting and display devices, high pressure discharges, plasma-surface interaction, plasma

diagnostics, and astrophysical plasmas among others. The tools used in these studies were just as varied and included laser and X-ray diagnostics, digital and analog photography, computer simulations, electrical and magnetic probes, and optical emission spectroscopy. Although the focus of this Special Issue is on plasma images and the articles were strictly limited to two journal pages, most papers contain sufficient details (or references) about the relevant devices, processes, and operating conditions to be educational as well as aesthetic contributions. The papers are furthermore easily accessible to, and in most cases easily understood by, nonexperts in plasma science, and so it is hoped that this issue (along with papers appearing in the first Special Issue) can be used as a resource for public education on the importance of plasmas.

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