COMMENTS

The special section on Carbon Materials for Fusion Applications that follows was arranged by Dr. Hans Conrads, who serves as the Guest Editor for this section. The papers are from presentations at the Third Workshop on Carbon Materials for Fusion Applications, Kernforschungsanlage Jülich, October 2, 1987. The journal staff wishes to gratefully acknowledge the planning and considerable effort put into the preparation of this special section by Dr. Conrads, the workshop organizers, and, of course, the authors of the various papers. Their enthusiasm and help were essential to the success of this project.

It has been said that, at first thought, carbon seems like a most unlikely material for application to a first wall in a fusion device. A picture of complex plasma/surface interactions, including hydrocarbon formation and chemical erosion of the graphite, immediately flashes to one's mind. Fortunately, workers in the area recognized earlier that this is not an entirely accurate view, so that carbon has received more in-depth evaluation. Indeed, it has gained favor through its extensive use in various experimental devices such as the Joint European Torus and the Tokamak Experiment for Technology Oriented Research. This experience, plus associated research, shows that it has excellent thermal shock properties that allow it to go undamaged even with fairly severe plasma disruption events. Further, it is a good material for maintaining low-level radioactivity in the blanket. Finally, there is evidence that the erosion and plasma chemistry issues may not be as serious as first envisioned. Consequently, carbon remains a strong contender for major use in the next generation of fusion experiments as well as in future fusion reactors. For this reason, the papers in this special section are especially important as they provide an excellent overview of the current state of the art for carbon usage in fusion devices.

George Miley