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Editorial from the Editor in Chief: Conferences related to *Laser and Particle Beams*

With the second issue of volume 25, *Laser and Particle Beams* has published 20 articles related to the topic of intense beams interacting with matter and related applications. One of the most outstanding future applications of this research field is inertial fusion energy. The prospects of energy from inertial fusion have initiated many research projects and *Laser and Particle Beams* frequently carry articles on this topic and related subjects (Hora, 2004, 2007; Leon *et al.*, 2005; Miley *et al.*, 2005; Bret & Deutsch, 2006; Perlado *et al.*, 2005; Someya *et al.*, 2006; Imasaki & Li, 2007). This year, September 9–14, the Fifth International Conference of Inertial Fusion Science and Applications (IFSA 2007) will be held in Kobe, Japan. Many authors and readers of *Laser and Particle Beams* plan to attend, and will use the opportunity to meet with fellow scientists to discuss the progress in inertial fusion science. There has been a tremendous development in recent years in all fields that are related to this topic. Two larger laser facilities are under construction; these two are the National Ignition Facility (NIF) in Livermore, California and the Megajoule Project at Bordeaux in France. From both laboratories, the journal has frequent contributions about the progress of the field (Nobile *et al.*, 2006; Lontano *et al.*, 2006; Chen & Wilks, 2005; Kilkenny *et al.*, 2005; Ng *et al.*, 2005; Mangles *et al.*, 2006; Borghesi *et al.*, 2005; Breil *et al.*, 2005; Fernandez *et al.*, 2005).

These articles are just an example of many research projects in recent years related to inertial fusion. The development in target production is one key issue in this field. Russian and United States laboratories have made outstanding contributions to the target technology (Kilkenny *et al.*, 2005). High energy density science, which can be regarded as an offspring of inertial fusion science, has experienced a boost due to the remarkable technical achievements in laser technology. In addition, pulsed power has experienced dramatic progress toward inertial fusion. The Z-machine at Sandia National Laboratories in Albuquerque, New Mexico, is a very good example. Moreover, this laboratory uses a high intensity laser along with the Z-machine, where the laser serves diagnostic purposes. A similar development is going on at Gesellschaft für Schwerionenforschung Darmstadt, Germany, where the PHELIX laser system, a high intensity laser with petawatt capabilities will be used in conjunction with the high intensity heavy ion beam to generate, and study examples of warm dense matter. In many laboratories worldwide, high intensity laser and ion beams, as well as pulsed power are used to address high energy density physics, which is a basis for understanding the complicated processes matter undergoes during the compression heating and compression phase in an inertial fusion target (Jungwirth, 2005; Batani *et al.*, 2007; Danson *et al.*, 2005; Hoffmann *et al.*, 2005; Temporal *et al.*, 2005; Becker *et al.*, 2006; Barriga-Carrasco Maynard, 2005; Ng *et al.*, 2005).

In 2006, there was a small workshop at the Korea Advanced Institute of Technology devoted to the problems and application of simulated Brillouin scattering. One important application related to the topic of inertial fusion is the prospect for high repetition rate lasers of high intensity using Brillouin scattering phase conjugate mirrors. Important results that originated from the discussion during this workshop are carried in this and previous issues of *Laser and Particle Beams* (Kappe *et al.*, 2007; Meister *et al.*, 2007, Wang *et al.*, 2007; Kong *et al.*, 2006).

Finally, I want to address the performance of *Laser and Particle Beams*. In the section called essential science, indicators the ISI web of knowledge the top papers for journals that are recognized by this index evaluation are listed. This section includes only those papers that meet a certain citation threshold specific to the field and year. For our Journal, seven recent papers are listed (Hora, 2004, 2005; Hoffmann *et al.*, 2005; Roth *et al.*, 2005; Badziak *et al.*, 2005; Schaumann *et al.*, 2005; Glowacz *et al.*, 2006). In June of 2007, when this issue appears, the new impact factors of journals will be published, and we expect for the third year in a row a remarkable increase of this essential indicator.

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