

**Advanced Accelerator Concepts Workshop**  
**June 23-28, 2002**  
**Mandalay Beach Resort, CA**

**Working Group: High Energy Density Physics &  
Exotic Acceleration Schemes**

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Rapid progress in development of high power lasers and the exploration of their interactions with matter have driven the study of High Energy Density Physics. High density beams of electrons and ions produced in these interactions and accelerated in the ultra-intense fields of lasers will be discussed in this working group.

The sheath acceleration of ions, high current and neutralized beam physics will be discussed. HED applications such as plasma radiography and heavy-ion fusion beam physics as well as applications of compact ion sources will also be discussed.

The HED group plans to have a joint session with the Laser-Plasma Acceleration and Computational Techniques working groups to address experiment and modeling of laser/matter interactions in the context of ion and electron source development.

The HED group plans to have a joint session with the Electromagnetic Structures working group to address laser acceleration in vacuum of electrons and ions, with potential application both to high energy physics machines and to the capture and acceleration of ions and electrons from laser sources.