

Title: Charged Particle Beams and High Powered Pulsed Sources

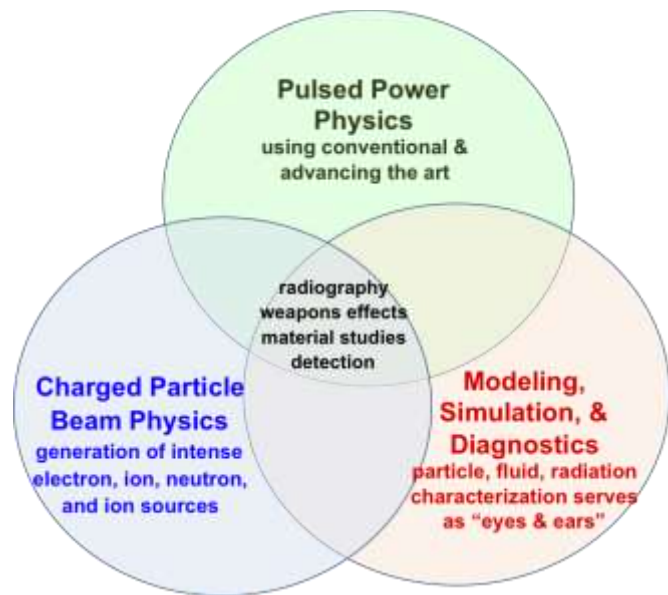
Date: May 25 1:30 pm-May 26 3:30 pm, 2017

Location: Harrah's Atlantic City, Atlantic City, New Jersey

Room: TBA

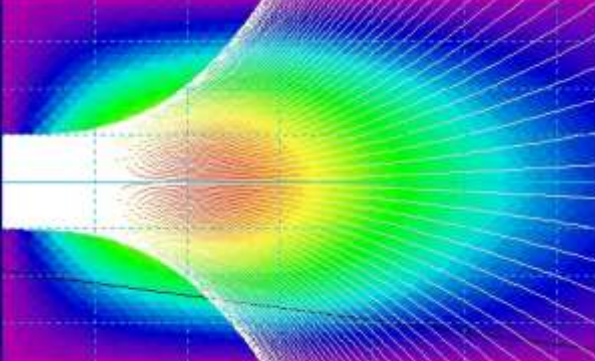
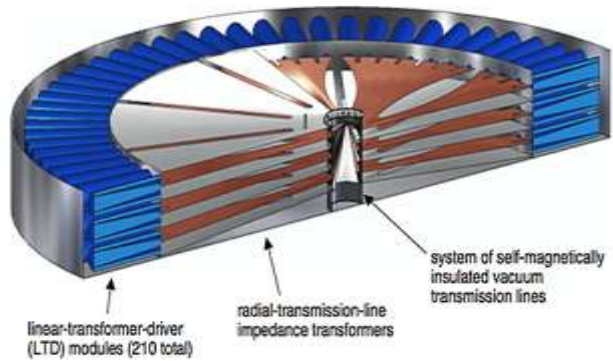
As part of the International Conference on Plasma Science 2017 (ICOPS 2017), a special 1.5-day mini-course on Charged Particle Beams and High Powered Pulsed Sources will be offered. This mini-course will be tutorial in nature and it will cover topics in the areas spanning fundamental research on theoretical modeling, computational approaches, and experimental findings. It will play an enabling role in bringing together experts in the fields so as to ensure optimal coordination among the fields. Some of the lecturers will describe latest progress of their discipline while others will offer overview lectures and review their present research interests and the context in which these areas of research are highly valuable. Participants at this conference will acquire a broad range of knowledge and skills that will enable them to contribute to many areas of plasma science and technology.

The Pulsed Power research coupled with charged particle beam sources activities aim to advance pulsed power technology in areas relevant to sponsors such as the Office of Naval Research, Department of Defense, and Department of Energy. This is achieved by developing high-energy pulsed power electrical systems employing capacitive and inductive energy storage, producing and utilizing pulsed plasmas and intense high-power, charged particle beams. This provides some of the Nation's technological basis for high energy density plasma experiments, high-power switching, and advanced radiation sources and advancing applications of this technology for areas such as Nuclear Weapon Effects Simulation, Science-Based Stockpile Stewardship, Detection of Nuclear Materials, Electromagnetic Launchers, and Inertial Confinement Fusion.



Lecture presentations will include Overview talks on Physics And Applications Of Electron Sources, Intense Charged Particle Beam Physics, Linear Transform Drivers LTD) technology for High Energy Density Experiments, Vacuum Surface Flashover and applications oriented lectures on High-power Electron Beam Diodes, Dense Plasma Focus to maximize ion beams and neutron yield, Theory and Modeling of Ultrafast and Nanoscale Interfacial Electron Transport, Multipactor Discharge, and X-ray Free Electron Lasers (XFEL). Individual topics will be covered in one-hour presentations given by international experts in the field from institutions such as the Naval Research Laboratory, Los Alamos National Laboratory, Lawrence Livermore National Laboratory, Sandia National

Laboratories, Air Force Research Laboratory as well as from several Universities. Further information on the abstracts and instructors, and student tuition grants will be posted on the conference website shortly. A detail schedule of the mini-course can be found in the Mini-course flyer (see above).

	
Virtual anode formation; charged particle beams	Proposed model of a 1,000 terawatt LTD-based z-pinch accelerator. 104 m diameter, 70 million amperes, 24 megavolts.

Registration Information: **Deadline:** ?, 2017

Registration Fee: **US \$350 student and US\$550 regular**; Registration will include snack and dinner on May 25 and breakfast, lunch and two snacks on May 26 2017.

Be sure to check out the [Paul Phelps Continuing Education Grant](#).

Contact Information

Dr. Arati Dasgupta
 Plasma Physics Division, Code 6721
 Naval Research Laboratory
 4555 Overlook Avenue SW
 Washington, DC 20375-5346
 Tel: (202) 404-4389
 Fax: (202) 404-7596
 E-mail: arati.dasgupta@nrl.navy.mil