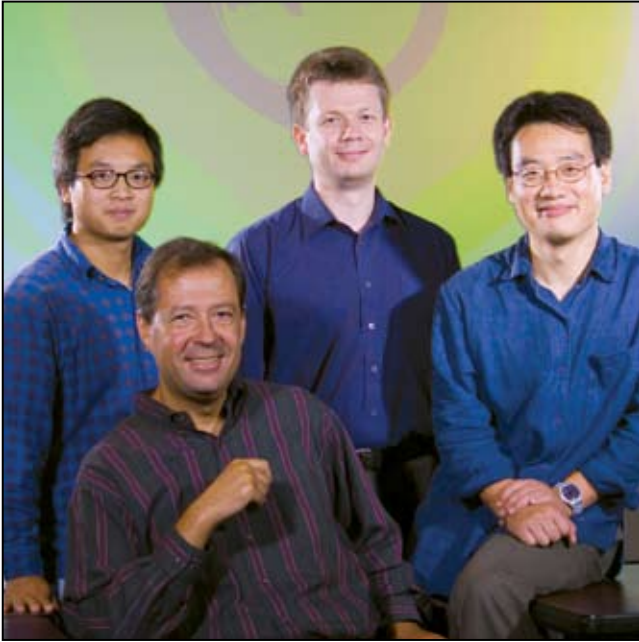


About the Cover:

The cover shows a picture of Dr. Riccardo Betti, director of the newly formed University of Rochester Fusion Science Center (UR-FSC), deriving scaling relations that can be used to optimize implosion parameters for fast-ignition targets. The target-design goal for fast ignition is to achieve a cold, high-density, high- ρR assembly of thermonuclear fuel. Once assembled, the fuel is ignited by fast electrons generated by an ultra-intense petawatt laser pulse (such as that provided by the OMEGA EP Facility). Images from numerical calculations of fast-electron transport in such targets appear to the right along with a cone-in-shell target.



Inside cover: Members of the University of Rochester Fusion Science Center: (from left to right) Chuandong Zhou (Dept. of Mechanical Engineering, Graduate Student, Research Assistant), Riccardo Betti (LLE and Dept. of Mechanical Engineering), Andrey Solodov (UR-FSC postdoctoral Research Associate), and Chuang Ren (Dept. of Mechanical Engineering).

This report was prepared as an account of work conducted by the Laboratory for Laser Energetics and sponsored by New York State Energy Research and Development Authority, the University of Rochester, the U.S. Department of Energy, and other agencies. Neither the above named sponsors, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, mark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring

by the United States Government or any agency thereof or any other sponsor. Results reported in the LLE Review should not be taken as necessarily final results as they represent active research. The views and opinions of authors expressed herein do not necessarily state or reflect those of any of the above sponsoring entities.

The work described in this volume includes current research at the Laboratory for Laser Energetics, which is supported by New York State Energy Research and Development Authority, the University of Rochester, the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC03-92SF19460, and other agencies.

Printed in the United States of America
Available from
National Technical Information Services
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161
Price codes: Printed Copy A04
Microfiche A01

For questions or comments, contact Jason Myatt, Editor, Laboratory for Laser Energetics, 250 East River Road, Rochester, NY 14623-1299, (585) 275-5772.

Worldwide-Web Home Page: <http://www.lle.rochester.edu/>