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IN BRIEF

This volume of the LLE Review, covering the period July–September 1992, contains articles on methods of balancing the beam power on the OMEGA Upgrade and on the damping of ion-sound waves in laser-produced plasmas. The advanced technology section includes reports on optical nonlinearities in high-temperature superconductors, a method of increasing gas retention time for laser-fusion targets, and a study of stimulated Raman scattering of laser beams in air.

Highlights of the research reported in this issue are

- An efficient method has been developed for balancing the power in the 60 beams of the OMEGA Upgrade. The method can achieve 2% power balance for both main and foot beams using only four system shots.

- A study of ion-sound-wave damping has substantially revised and expanded our knowledge of this effect. The damping of ion waves can have important consequences for laser-plasma interaction.

- The use of femtosecond laser pulses to study the properties of thin-film, high-temperature superconductors is discussed.

- A method for increasing the gas retention time of polymer-shell laser-fusion targets by overcoating them with a thin layer of aluminum is described.

- A code has been developed to study stimulated rotational Raman scattering in high-power laser beams propagating through air.