

About the Cover:

LLE has recently completed the development of a new carbon-activation diagnostic designed for tertiary neutron yield measurements on OMEGA (see p. 161). Tertiary neutrons with energies over 20 MeV are used to determine the areal mass density of inertial confinement fusion targets. Experiments that use this diagnostic and take advantage of the purification facility and handling procedures that ensure a low level of sample contamination have shown very good reproducibility. This diagnostic, with proper choice of shielding, is also suitable for use on the National Ignition Facility.



The cover photo (also shown at left) shows Dr. Vladimir Glebov preparing a carbon disk (1) for counting in the carbon activation system. The carbon disk was irradiated on OMEGA in a sealed vacuum bag. Once it is removed from the bag, it is inserted into the two NaI scintillation detectors, which are encased in lead shielding (2). The carbon activation system electronics (3) provide data that are analyzed by the PC-based data acquisition system (4).

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