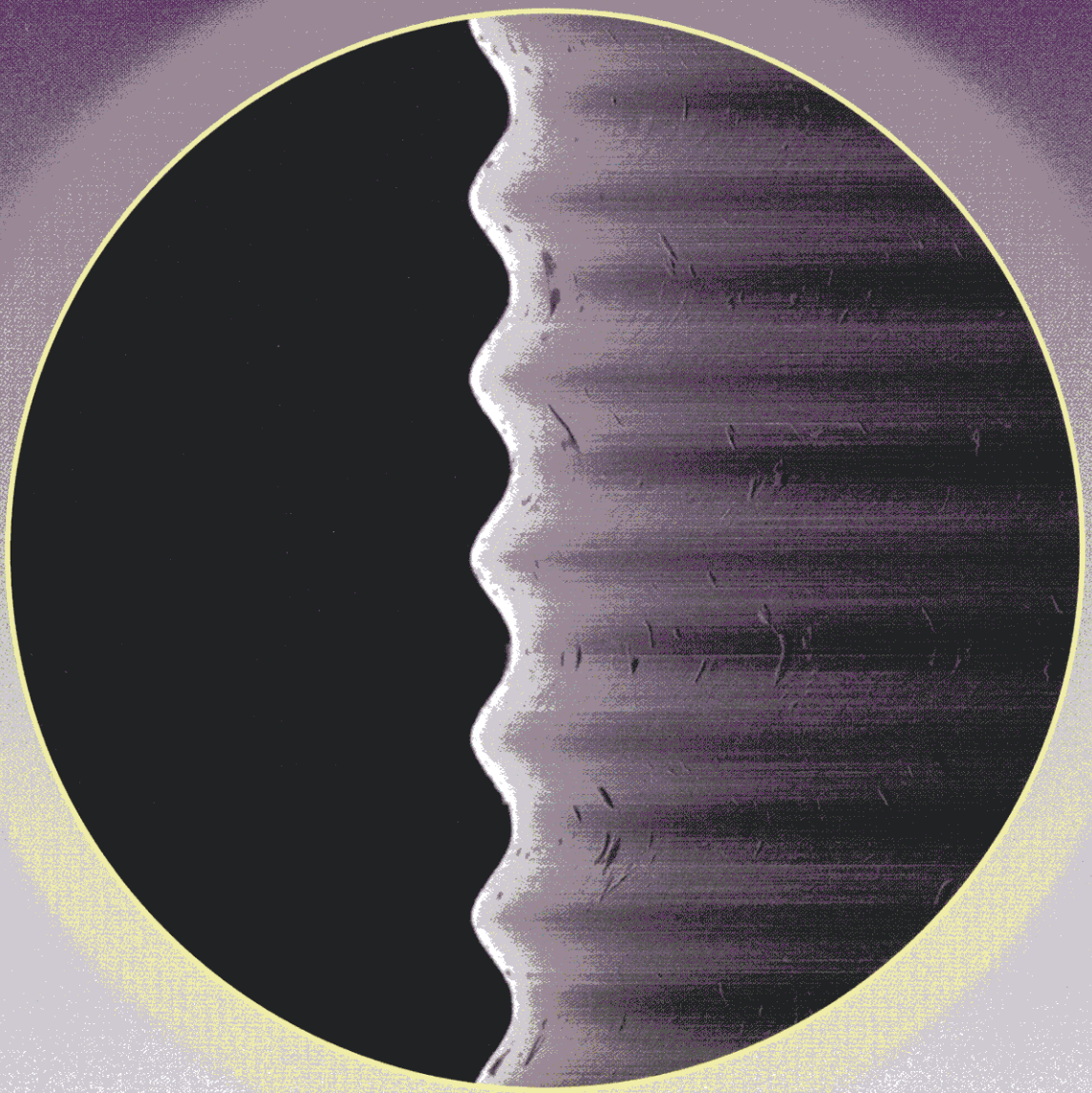
nuclear weapons journal



Winter 2004

- Validation Experiments
- Atlas
- Shock-Driven Instability
- Ion Beam Analysis
- Monitoring HE Aging
- Teflon Impact Response

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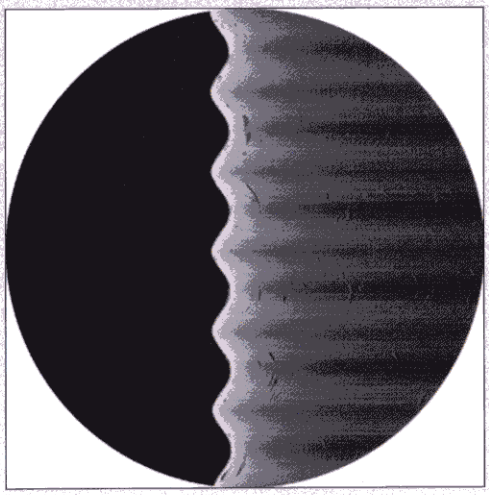

About the cover: Scanning electron micrograph (SEM) of the unstable interface in a Richtmyer-Meshkov hydrodynamic experiment performed using the OMEGA laser, showing a portion of the cylindrical target before the experiment. The laser strikes a layer of epoxy left of the figure and drives a strong shock into the cylinder, causing an implosion and initiating instability at this interface.The sinusoidal perturbations, machined into a thin aluminum layer, have a wavelength of 9 μm and peak-to-peak amplitude of 2 μm. *SEM courtesy of Norm Elliott, MST-7.*

Winter 2004 LALP-04-013

Nuclear Weapons Journal highlights ongoing work in the nuclear weapons program at Los Alamos National Laboratory. *NWJ* is an unclassified, quarterly publication funded by the Weapons Physics and Weapons Engineering and Manufacturing Directorates.

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Correction: The "Backward Glance" in the September/October 2003 issue stated that George Gamov remained a Russian citizen after he fled the Soviet Union in 1933. In fact, he and his wife Rho (Luybov Vokhminzeva) became naturalized American citizens as soon as possible. They were proud of their American citizenship and traveled widely with their American passports. Only under Soviet law and in that territory did they remain Russian citizens. (We thank George's son, Igor, and his wife Elfriede for this information.)

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NNSA
National Nuclear Security Administration

BACKWARD GLANCE
World War II Code Words

Many people are familiar with some of the code words used at Los Alamos during World War II—Fat Man, Little Boy, and Trinity. Here is a sampling from the many others created during that time.

25 ..... ^{235}U

49 ..... ^{239}Pu

Batch ..... Material sent to Tinian Island in the Pacific

Bowery ..... Shipments of replaceable material sent to Tinian Island

Bronx ..... Shipments of irreplaceable material sent to Tinian Island

Camel ..... California Institute of Technology Program to produce high explosives for implosion assemblies

Centerline ..... Center Line, Michigan, Naval Ordnance Plant

Clearcreek ..... Teletype designation for Los Alamos; used after each combat drop and for Operation Crossroads communications

Clementine ..... Plutonium fast reactor

Destination ..... Tinian Island (from which the Enola Gay and Bockscar flew their respective combat missions); used for teletype transmissions after each combat mission

Dogpatch ..... Oak Ridge, Tennessee

Henry Farmer ... Enrico Fermi

James Baker ..... Aage Bohr

Jumbo ..... 216-ton containment vessel designed to recover plutonium at Trinity site

Kingman ..... Wendover Field, Utah; training ground for the combat delivery of Fat Man and Little Boy

Kit ..... Supplies and tools used to assemble Fat Man and Little Boy on Tinian Island

Nicholas Baker ... Niels Bohr

Pit ..... Core and tamper of the Trinity device and Fat Man

Pit Team ..... Team assigned to assemble both the Trinity device and the Nagasaki Fat Man bomb

Postum ..... Polonium

Product 89 ..... Crystalline boron of normal composition

Pumpkin ..... Fat Man ballistic shape filled with high explosives used for test drops

Sandy Beach ..... Salton Sea, California; used for sea-level drop tests of early Fat Man and Little Boy devices

Soda Pulp ..... Bismuth

Thin Man ..... Early design of Little Boy

Tuballoy ..... Natural uranium

Uncle Nick ..... Niels Bohr

Vitamin B ..... ^{10}B

W-47 ..... Wendover Field, Utah

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