

Fusion Science and Technology

CONTENTS / MAY 2009—VOL. 55, NO. 4

Selected papers from
**EIGHTEENTH TARGET FABRICATION
SPECIALISTS' MEETING**
(Part 2)

Lake Tahoe, California
May 11–15, 2008

Guest Editor: Robert C. Cook

iii Comments / *Nermin A. Uckan*

v Preface / *Alex Hamza, David Harding*

TECHNICAL PAPERS

- 349** Overview of National Ignition Facility Capsule Metrology / *K. A. Moreno, S. Eddinger, J. Fong, Y. T. Lee, A. Nguyen, A. Nikroo, H. Huang, R. Rosano, H. W. Xu*
- 356** Element-Specific Profiling for ICF Ablator Capsules with Mixed Dopant and Impurities / *H. Huang, A. Nikroo, R. B. Stephens, S. A. Eddinger, D. R. Wall, K. A. Moreno, H. W. Xu*
- 367** X-Ray Absorption Spectroscopy for ICF Target Characterization / *J. R. Fong, S. A. Eddinger, H. Huang, K. A. Moreno*
- 373** Quantitative Dimension Measurement of ICF Components Using Xradia MicroXCT Microscope / *H. Huang, S. A. Eddinger, M. Schoff*
- 380** Quantitative Data Analysis Method for Precision Radiography / *H. Huang, S. A. Eddinger, R. B. Stephens, A. Nikroo*
- 389** Characterization of the Microshell Surface Using Holographic Measurements / *F. Sandras, C. Hermerel, A. Choux, P. Mérillot, G. Pin, L. Jeannot*
- 399** Characterization of Isolated Defects for NIF Targets Using PSDI with an Analysis of Shell Flipping Capability / *A. Q. L. Nguyen, S. A. Eddinger, H. Huang, M. A. Johnson, Y. T. Lee, R. C. Montesanti, K. A. Moreno, M. E. Schoff*
- 405** Increasing the Throughput of Phase-Shifting Diffraction Interferometer for Quantitative Characterization of ICF Ablator Capsule Surfaces / *Y. T. Lee, A. Q. L. Nguyen, H. Huang, K. A. Moreno, K. C. Chen, C. Chen, M. A. Johnson, J. D. Hughes, R. C. Montesanti, D. W. Phillion*

(Continued)

CONTENTS / MAY 2009—VOL. 55, NO. 4

(Continued)

- 411** Three-Dimensional Wallmapping Using Xradia with Distortion Correction / *S. A. Eddinger, H. Huang, M. E. Schoff*
- 417** Nondestructive Investigations of a Copper- and Argon-Doped Sputtered Beryllium Capsule Using X-Rays in Three Dimensions / *Brian M. Patterson, Kimberly A. DeFriend Obrey, George J. Havrilla, Abbas Nikroo, Haibo Huang*
- 424** Submicron Gold Coating Measurements for Hohlraum Development / *E. L. Alfonso, K. A. Moreno, H. L. Wilkens, J. S. Jaquez, A. Nikroo*
- 429** Update on Germanium-Doped CH Capsule Production for NIF: Scale-Up Issues and Current Yields / *K. C. Chen, A. Q. Nguyen, H. Huang, S. A. Eddinger, A. Nikroo*
- 438** Thickness, Doping Accuracy, and Roughness Control in Graded Germanium Doped CH_x Microshells for LMJ / *G. Legay, M. Theobald, J. Barnouin, E. Pêche, S. Bednarczyk, C. Hermelot, O. Legaie*
- 446** Advancements in Glow Discharge Polymer Coatings for Mass Production / *J. T. Bousquet, J. F. Hund, D. T. Goodin, N. B. Alexander*
- 450** Improvements on Permeation GDP Coatings for Resorcinol Formaldehyde Foam Shells for Cryogenic Experiments on OMEGA / *R. R. Paguio, A. Nikroo, K. M. Saito, J. F. Hund, E. R. Castillo, N. M. Ravelo, K. Quan*
- 456** Properties of Silicon-Doped GDP Shells Used for Cryogenic Implosions at OMEGA / *R. W. Luo, A. L. Greenwood, A. Nikroo, C. Chen*
- 461** High-Z Doping of Glass Shells / *M. L. Hoppe, B. A. Vermillion*
- 465** Smooth Membrane Formation on Resorcinol-Formaldehyde Aerogel Balls Gelated Using a Basic Phase-Transfer Catalyst / *Fuyumi Ito, Naotake Nakamura, Keiji Nagai, Mitsuo Nakai, Takayoshi Norimatsu*
- 472** Optimization of Phase Transfer Catalysis for In Situ Coating of Resorcinol Formaldehyde Targets / *J. J. Karnes, N. M. Petta, J. E. Streit*
- 477** X-Ray Tomography of Growing Silica Gel with a Density Gradient / *N. G. Borisenko, A. A. Akunets, I. A. Artyukov, K. E. Gorodnichev, Yu. A. Merkuliev*
- 484** Embedding Sapphire Spheres in Resorcinol Formaldehyde Aerogel for Astrophysical Jet Experiments / *R. R. Paguio, J. F. Hund, B. E. Blue, D. G. Schroen, K. M. Saito, C. A. Frederick, R. J. Strauser, K. Quan*
- 490** Manufacturing Complex Silica Aerogel Target Components / *Kimberly A. DeFriend Obrey, Robert D. Day, Doug Hatch, Brent F. Espinoza, Shihai Feng, Brian M. Patterson*
- 499** Fabrication of Ta_2O_5 Aerogel Targets for Radiation Transport Experiments Using Thin Film Fabrication and Laser Processing / *C. A. Frederick, A. C. Forsman, J. F. Hund, S. A. Eddinger*
- 505** Volume 55 Indexes