Recent Progress in Target Metrology at General Atomics

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Targets are central to all ICF/HED programs. Many target specifications are so tight or specialized that the measurements cannot be performed on commercial equipment. General Atomics continues to provide on-demand target metrology development to support the evolving needs of the community. In this talk, we will present our latest efforts in new instrument design, equipment automation and data analysis technique development. Examples include a dark-field imaging algorithm to measure ablator defects down to 0.1um size required by Laboratory for Laser Energetics direct drive program, an automated x-ray absorption spectroscope to improve the precision and accuracy of dopant measurement, x-ray imaging improvement to enable double shell process development, optical transmission characterization of thin metallic films for micro-dots hohlraum diagnostic platform, new high-resolution NEXIV pin-hole array characterization, etc.