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Symmetry Tuning of Polar-Direct-Drive Implosions on OMEGA<sup>1</sup> S. HSU, J. COBBLE, T. MURPHY, N. KRASHENINNIKOVA, J. BAUMGAER-TEL, P. BRADLEY, P. HAKEL, R. KANZLEITER, M. SCHMITT, R. SHAH, I. TREGILLIS, LANL, R. MANCINI, H. JOHNS, T. JOSHI, D. MAYES, S. NASEWICZ, Univ. of Nevada, Reno — Three laser cone energy balances and two laser pointings were used over two shot days on OMEGA to evaluate our control of symmetry for polar-direct-drive implosions, and to compare against the predictions of simulations. The spherical targets had  $870-\mu m$  outer diameter,  $17-\mu m$  thick CH shell, and 5-atm DD gas fill (nominal values). Various dopant combinations were used in both the shell (Ti and V) and gas (Ar). The primary diagnostic for evaluating implosion symmetry was backlit radiography imaged by an x-ray framing camera (day 1) and the LANL large format camera (day 2). For the secondary objective of evaluating shell-mix as a function of laser settings, we used a combination of x-ray spectral instruments including XRS, SSCA, and two MMI's. Neutron yields (from NTOF 5.4 m) were in the range  $\approx 0.5-3 \times 10^{10}$  and the burn-averaged  $T_i$  was  $\approx 3-$ 4.5 keV. This talk focuses on experimental analysis/results on implosion symmetry as a function of variations in laser settings.

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