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**Optimization with *Telios* of the Polar-Drive Point Design for the National Ignition Facility** T.J.B. COLLINS, J.A. MAROZAS, P.W. MCKENTY, Laboratory for Laser Energetics, U. of Rochester — Polar drive[1] (PD) will make it possible to conduct direct-drive–ignition experiments at the National Ignition Facility[2] while the facility is configured for x-ray drive. A PD-ignition design has been developed[3] achieving high gain in simulations including single- and multiple-beam nonuniformities, and ice and outer-surface roughness. This design has been further optimized to reduce the in-flight aspect ratio and implosion speed, increasing target stability while maintaining moderately high thermonuclear gains. The dependence of target properties on implosion speed has been examined using the optimization shell *Telios*. *Telios* has the capability to drive complex radiation–hydrodynamic simulations and optimized results over an arbitrarily large parameter space, including ring pointing angles, spot-shape parameters, target dimensions, pulse timing, and relative pulse energies. *Telios* is capable of extracting output from a variety of sources and combining them to form arbitrarily complex, user-specified metrics. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

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