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A technique for producing co-propagating shocks on the National Ignition Facility[1] CARLOS DI STEFANO, ELIZABETH MERRITT, FORREST DOSS, BRIAN HAINES, TIFFANY DESJARDINS, BARBARA DEVOLDER, KIRK FLIPPO, DEREK SCHMIDT, LYNN KOT, TED PERRY, Los Alamos National Laboratory — We describe a technique for generating planar co-propagating shocks using the National Ignition Facility laser. The case of co-propagating shocks is an important and understudied aspect of the effect of multiple shocks (termed "reshock") on a material interface. This kind of behavior is of computational interest for mix modeling, which seeks to understand and predict the physics of relevant systems such as inertial-confinement fusion capsules, and many astrophysical processes. Previous studies involving reshock have overwhelmingly involved counterpropagating shocks, and our technique provides an avenue for investigating the action of co-propagating shocks. This talk will focus on the computational design of the method, which involves sequential direct and indirect drives on a single planar ablator, and the details of correctly modeling the drive.

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