Title
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Authors
Logan, B. Grant
Perkins, L. John

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by
B. G. Logan and L. J. Perkins**
Lawrence Berkeley National Laboratory (on behalf of U.S. HIFS-VNL)
1 Cyclotron Road, Berkeley, CA 94720, USA
bglogan@lbl.gov
**Lawrence Livermore National Laboratory

Accelerator Fusion Research Division
Ernest Orlando Lawrence Berkeley National Laboratory
University of California
Berkeley, California 94720

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ADVANCES IN HIGH EFFICIENCY COUPLING TO HEAVY ION DIRECT DRIVE AND APPLICATION TOWARDS SMALL TEST REACTORS (SUB MJ DRIVE FUSION AND FUSION-FISSION HYBRIDS)*

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1-D Lasnex calculations show efficient (15 to 20%) hydro-coupling of heavy ion beams to direct drive targets without hohlraums at less than 1 MJ drive energy. Beam symmetry studies show that 60 beams may suffice with rotated beam spots on the ablator. NIF scale capsules with low aspect ratio A < 2 for robust RT stability show 1-D gains ~ 50 at drive energies of 350 to 450 kJ. Application to small heavy ion fusion test reactors with \(<P_{e\text{net}}> \sim 10\) MWe, and to small fission fusion hybrids @ \(\sim 30\) MWe net power scale are considered.

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