

## **ASSESSING MAGNETIZED LINER INERTIAL FUSION STAGNATION CONDITIONS AND IDENTIFYING TRENDS\***

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Magnetized Liner Inertial Fusion (MagLIF) is a magneto-inertial fusion concept currently being investigated on Sandia's Z facility. In MagLIF an axial magnetic field of 10-30 T is applied to the cold fusion fuel, which is contained in a cm-scale beryllium can, called a liner. The fuel is then heated by a few-kJ, TW-class laser to around 100 eV. The current from the Z machine flows axially through the liner, causing it to implode. The magnetized, laser-heated fuel is compressed and heated to multi-keV temperatures.

Over 60 MagLIF experiments have been conducted with a variety of applied B-field amplitudes, laser heating configurations, fuel densities, and current pulse amplitudes. A simple methodology for assessing the stagnation conditions in these experiments has been developed to understand trends in target performance. Two-dimensional simulations covering a wide-range of parameter space were compared with the available experimental data to help understand trends in target performance with input parameters.

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