

# Validation of Liquid Lithium Target Stability for an Intense Neutron Source

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- We report the validation results of liquid lithium target stability for an intense fusion neutron source currently being planned for the International Fusion Materials Irradiation Facility (IFMIF).
- We achieve a stable Li target with an average thickness variation of just 0.17 mm. The mean and maximum wave amplitudes are found to be 0.26 mm and 1.46 mm, respectively inside the beam footprint, and hence, small enough compared to the requirements ( $< 1$  mm).
- The Li target is operated for an long period ( $\sim 1,000$  h) and it is found that the target's stability remains unchanged.

FIG. Li target under IFMIF conditions: (a) Appearance of Li target; (b) Three-dimensional average Li-target thickness; and (c) Histogram of wave height (wave height distribution) at the beam center.

