

## **Relative cross-calibration of the SAFT and the Near Backscatter Imager on LMJ for the measurement of Stimulated Brillouin Scattering**

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At Laser Mégajoule, Stimulated Brillouin Scattering may occur when indirect-drive Inertial Confinement Fusion (ICF) experiments are performed in low-pressure gaz-filled hohlraums. Near Backscatter Imager (NBI) is an optical diagnostic that measures the stimulated Brillouin backscatter. NBI measures the light that does not go back into the laser aperture, which is measured by the Full Aperture Backscatter System (FABS). When working with FABS, NBI allows for the full characterization of backscattered light. NBI and FABS are only available for one inner quad (28U) and one outer quad (29U) (to be commissioned). This is a limitation in the understanding of hohlraum laser coupling and Laser Parametric Instabilities (LPI). SAFT is an optical diagnostic that measures laser pulse shapes after frequency conversion for every beams involved in LMJ experiments. It has recently been noticed that this specific laser diagnostic allows us to also detect SBS for almost all the quads. Here is presented a novel cross calibration method that uses the glinted energy of LMJ beams on thin gold foils target. The main objectives is to cross calibrate NBI with SAFT and then with FABS in order to have a common metric for SBS studies.