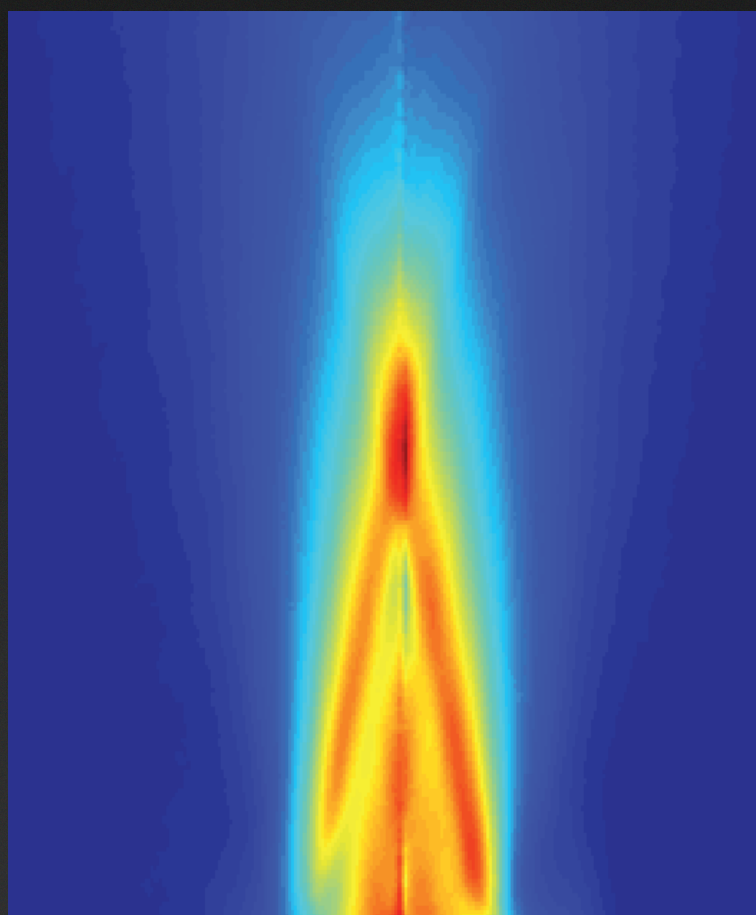


SourceLAB

Targetry Products

SL-GT-10

**Ultra thin, high density gas jet system
for near-critical regime**



www.sourcelab-plasma.com

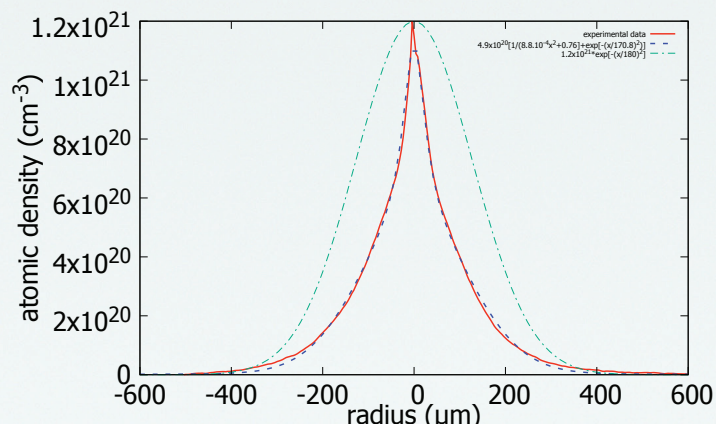
SL-GT-10 High-density laser-plasma gas target

A gas jet dedicated to your physics

The SL-GT-10 system is a high-pressure fast-switching gas jet assembly, specifically conceived for laser-plasma interaction.

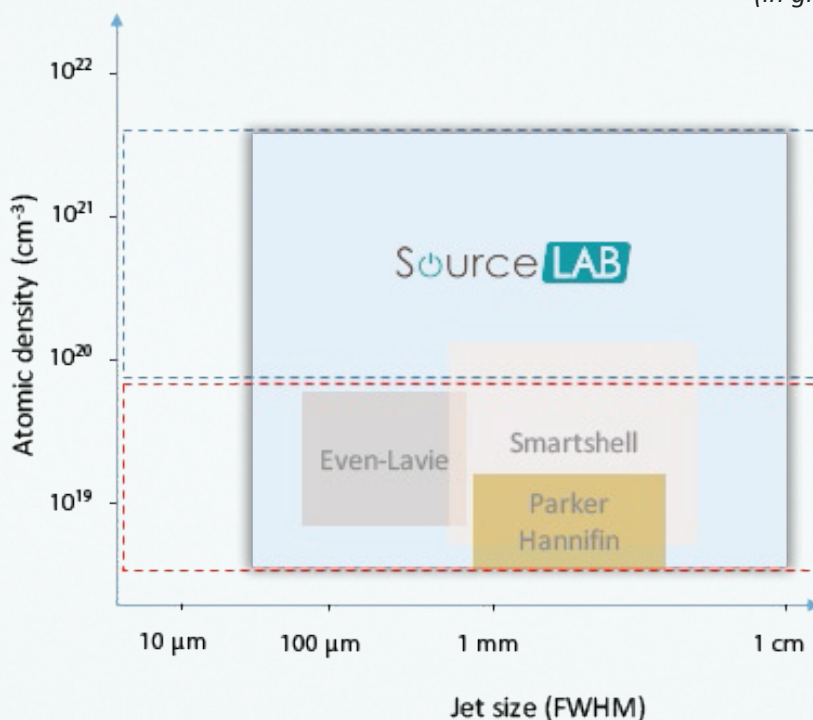
This high density gas jet offers unprecedented capabilities in terms of density range and jet size (FWHM): with a single equipment, the experimentalist can explore a broad perimeter of laser-plasma interaction regimes.

The SL-GT-10 is the only jet system enabling to access densities in the near-critical regime for Ti:Sa laser pulse (800 nm), while keeping the jet size sub-millimetric.



Experimental gas jets lineouts from SL-Noz-Comp at 424 μm from the nozzle exit (in red) and from sonic nozzles of 400 μm of diameter SL-Noz-at 100 μm from the nozzle exit (in green).

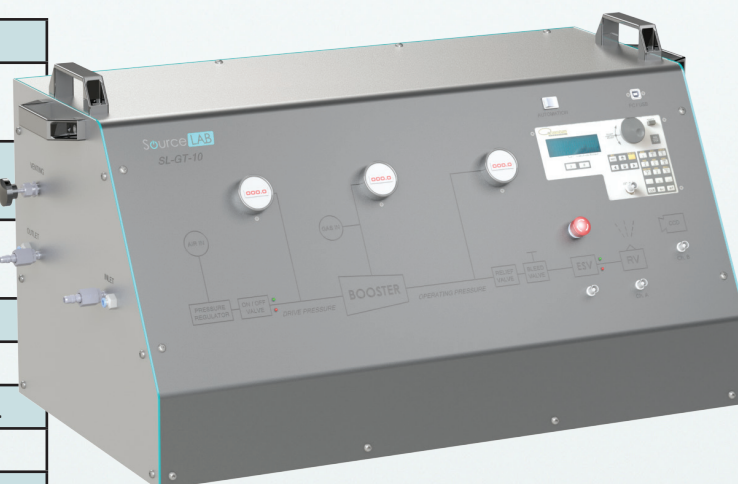
FWHM vs
atomic density
positioning of
the SL-GT-10
and typical
applications



Ion acceleration
Vortex / Soliton excitation
THz radiation

Betatron radiation
Electron acceleration
Harmonic generation

Specifications	
Max atomic peak density (400 μm nozzle, 320 bar)	> 2.10 ²¹ atoms/cm ³
Mach number (with a sub-mm nozzle)	Up to 6
Gradient scale length (400 μm nozzle)	< 400 μm
Repetition rate	Up to 1 Hz
Open / close time	15 ms / < 45 ms
Compatible nozzle type	Min. 200 μm of critical diam.
Valve dimensions (L x r) / mass	90 x 34 mm / 1.5 kg
Valve open / close timescale	< 3 ms
High-pressure pipes length	Up to 3 m (flexible)
Operating pressure	Max. 344 bar



Fully interfaced, easy-to-tune output gas flow