$[BoldFont = LinLibertine_RB.otf, ItalicFont = LinLibertine_RI.otf, BoldItalicFont = LinLibertine_RBI.otf, Path = /opt/indico/.venv/lib/python2.7/site-packages/indico_fonts/] [BoldFont = LinBiolinum_RB.otf, ItalicFont = LinBiolinum_RI.otf, Path = /opt/indico/.venv/lib/python2.7/site-packages/indico_fonts/] [BoldFont = LinBiolinum_RB.otf, ItalicFont = LinBiolinum_RI.otf, Path = /opt/indico/.venv/lib/python2.7/site-packages/indico_fonts/] [BoldFont = LinBiolinum_RB.otf, ItalicFont = LinBiolinum_RI.otf, Path = /opt/indico/.venv/lib/python2.7/site-packages/indico_fonts/] [BoldFont = LinBiolinum_RB.otf, ItalicFont = LinBiolinum_RI.otf, Path = /opt/indico/.venv/lib/python2.7/site-packages/indico_fonts/] [BoldFont = LinBiolinum_RB.otf, ItalicFont = LinBiolinum_RI.otf, Path = /opt/indico/.venv/lib/python2.7/site-packages/indico_fonts/] [BoldFont = LinBiolinum_RI.otf, Path = /opt/indico/.venv/lib/python2.7/site-packages/indico_fonts/] [Bol$

HTPD 2018



Contribution ID : 301

Type : not specified

14.41 Development and characterization of liquid argon and methane microjets for high-rep-rate laser-plasma experiments

Thursday, 19 April 2018 10:31 (120)

A cryogenic microjet system has been used for delivering microns-scale continuous liquid hydrogen targets for laser-plasma experiments. This technique has been extended to higher-Z, higher boiling-point gases, including argon and methane. High-resolution shadowgraphy has been used to characterize the jets morphology and pointing stability. A split and delay illumination source has also been developed for direct measurement of jet speeds without relying on assumptions of fluid flow conditions. Under typical conditions the argon jets freeze solid due to evaporative cooling, but the methane jets remain liquid and break up to a droplet stream. A piezo driver is used to ensure the droplets are of uniform size. This jet has enabled the investigation of methane in planetary core conditions with high-rep-rate laser heating and x-ray laser probing.

Primary author(s): KIM, Jongjin (SLAC National Accelerator Laboratory)

Co-author(s) : SCHOENWAELDER, Christopher (SLAC National Accelerator Laboratory); GLENZER, Siegfried (Schoenwaelder)

Presenter(s) : KIM, Jongjin (SLAC National Accelerator Laboratory); SCHOENWAELDER, Christopher (SLAC National Accelerator Laboratory); GLENZER, Siegfried (Schoenwaelder)

Session Classification : Session #14. Thursday Morning Poster Session