European XFEL Workshop

Opportunities for microfluidic devices at Free-Electron Lasers

Platform for cryogenic jet targets at the HED instrument

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Target development has a significant impact on pushing the frontier in high energy density (HED) science, e.g. relativistic laser plasma physics or shock compression studies. Using liquid jets are of particular interest because they provide high repetition rate and debris free samples. Combining liquid jet and cryogenic technologies now pave the way to deliver ambient gas phase elements such as hydrogen, helium or methane at liquid/solid density. This talk will give an overview on recent activities on the development of cryogenic liquid hydrogen jets and their application at SLAC and DRACO. The performance of cylindrical jets with diameters in the range of 2-10 microns will be presented and compared with results from jets with planar geometry.