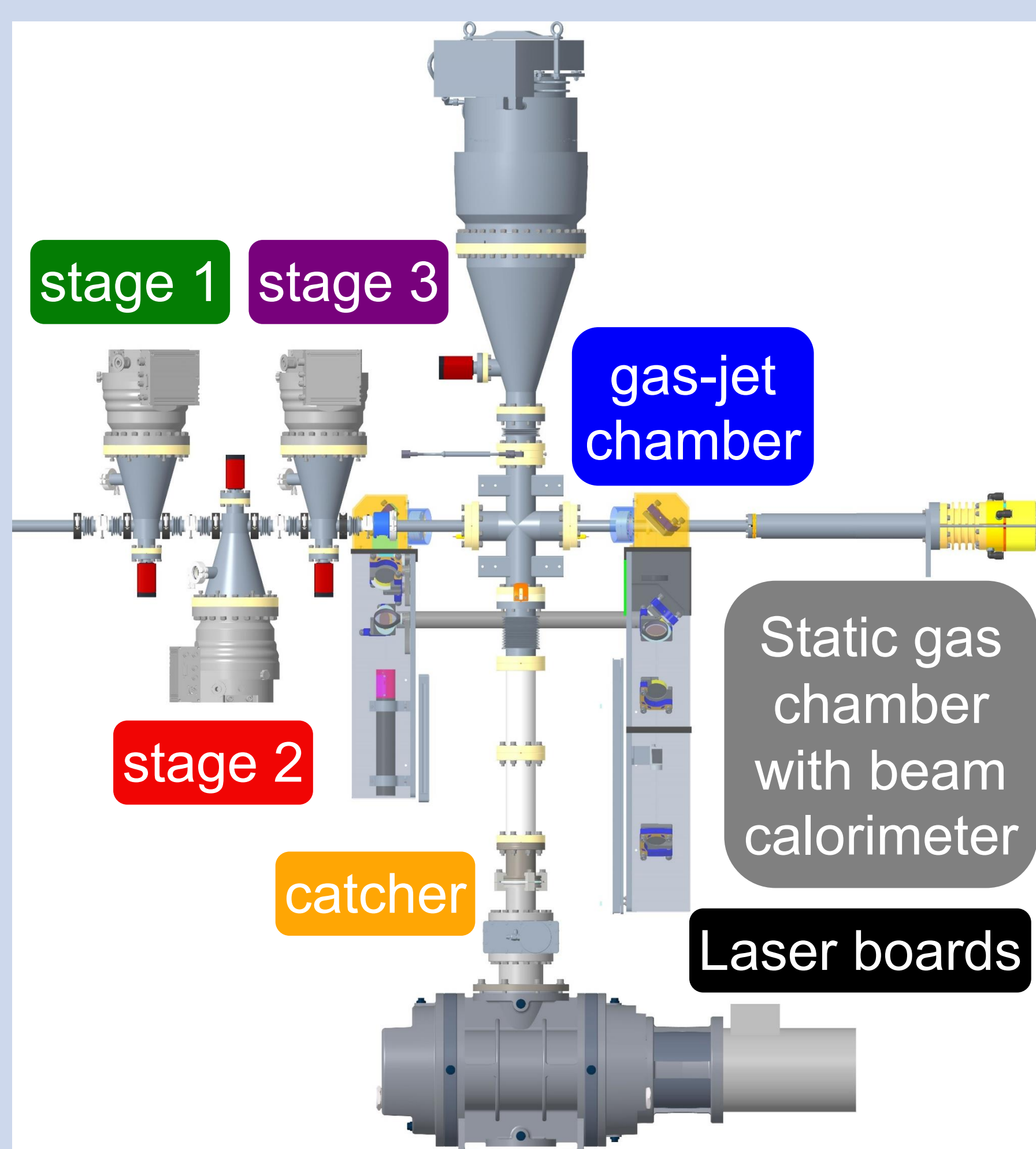


Advanced Gas Target Techniques for Nuclear Astrophysics

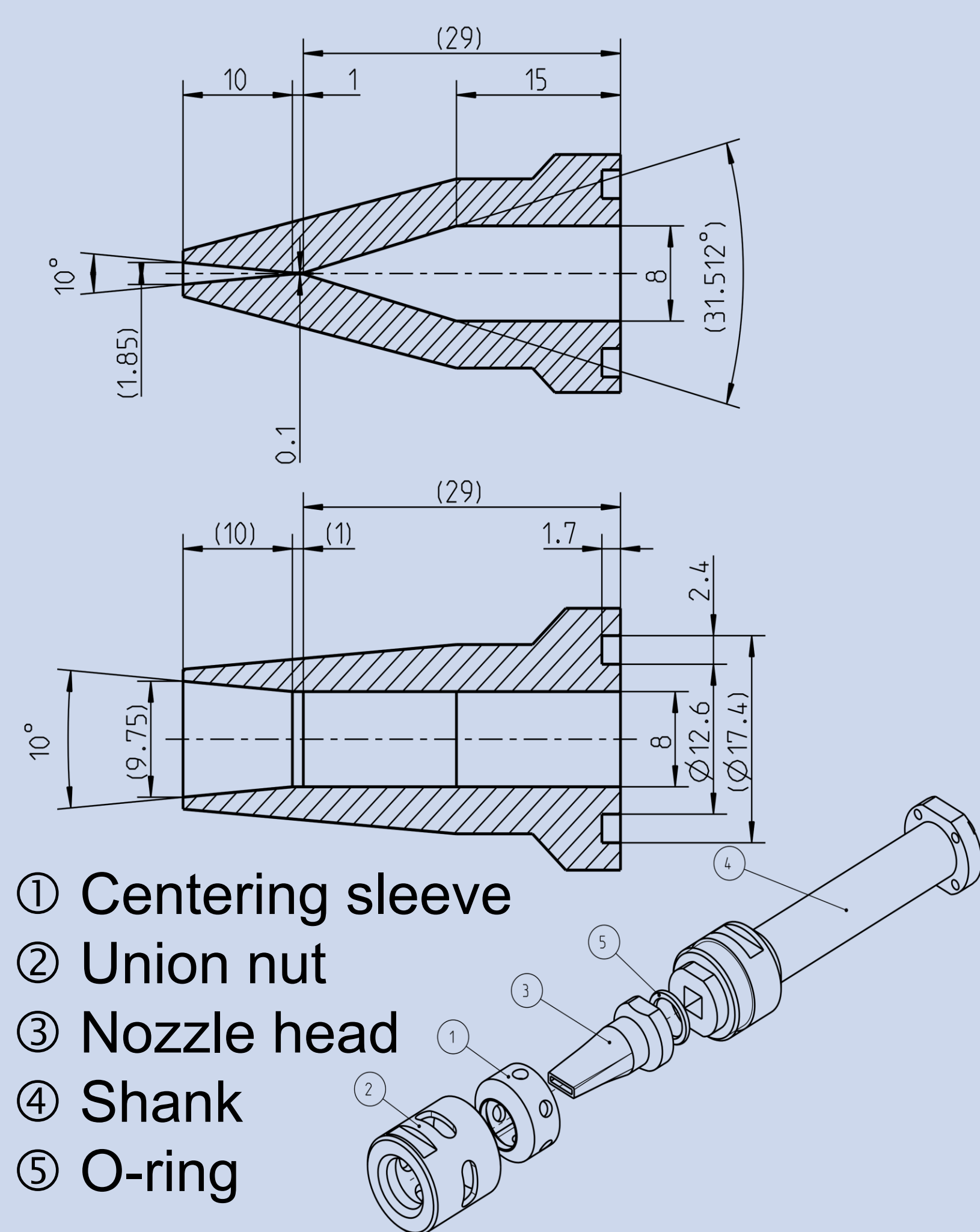
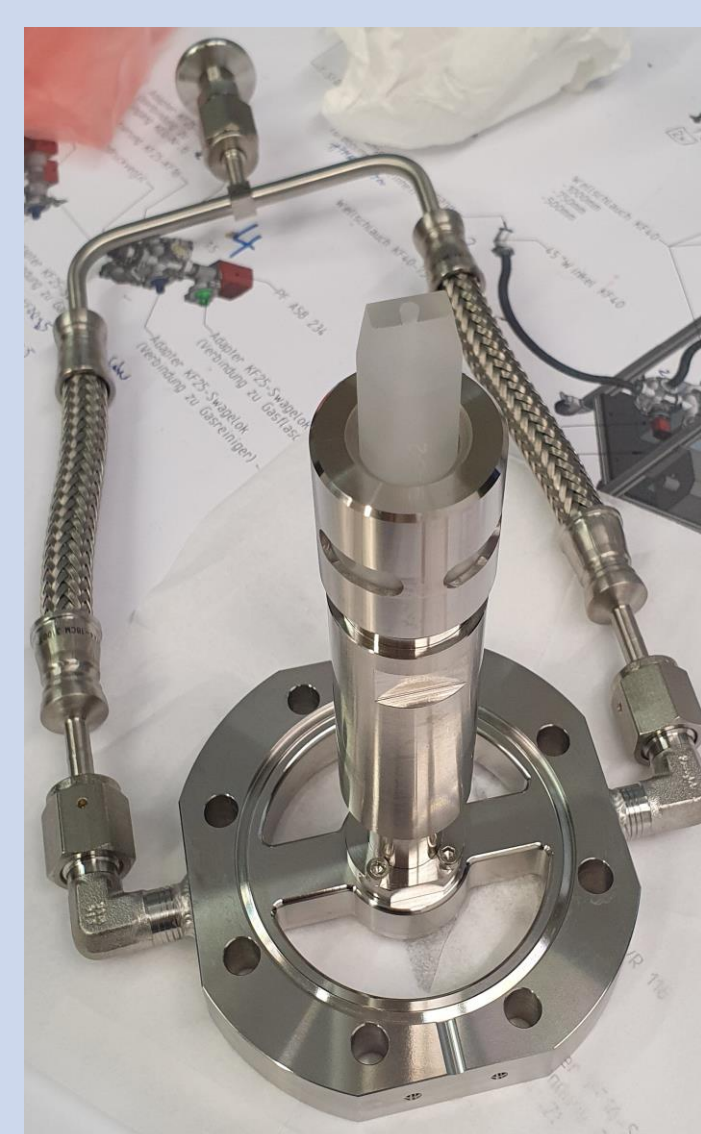
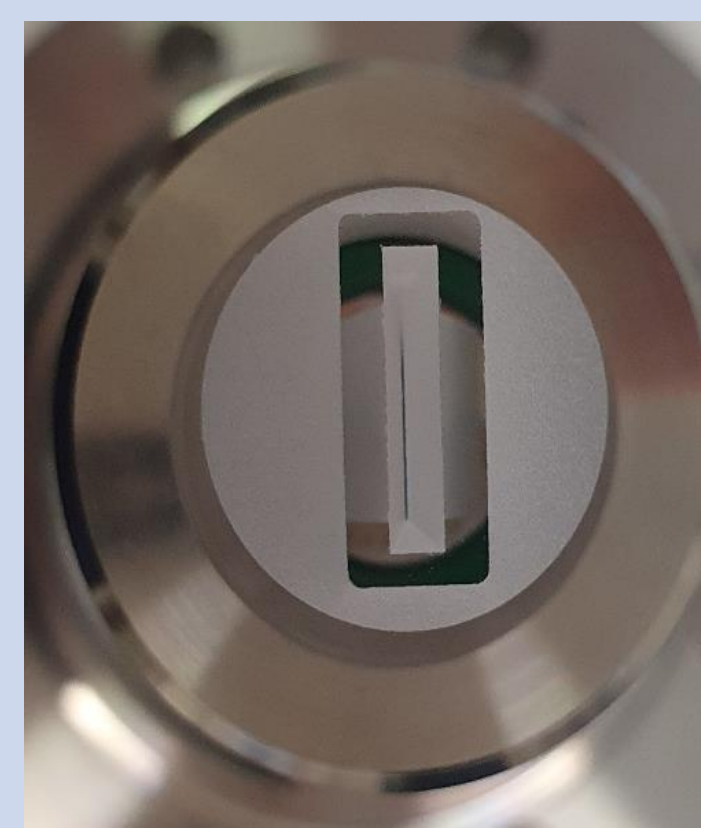
K. Schmidt¹, A. Yadav^{1,2}, D. Bemmerer¹

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DRESDEN ROSSENDORF

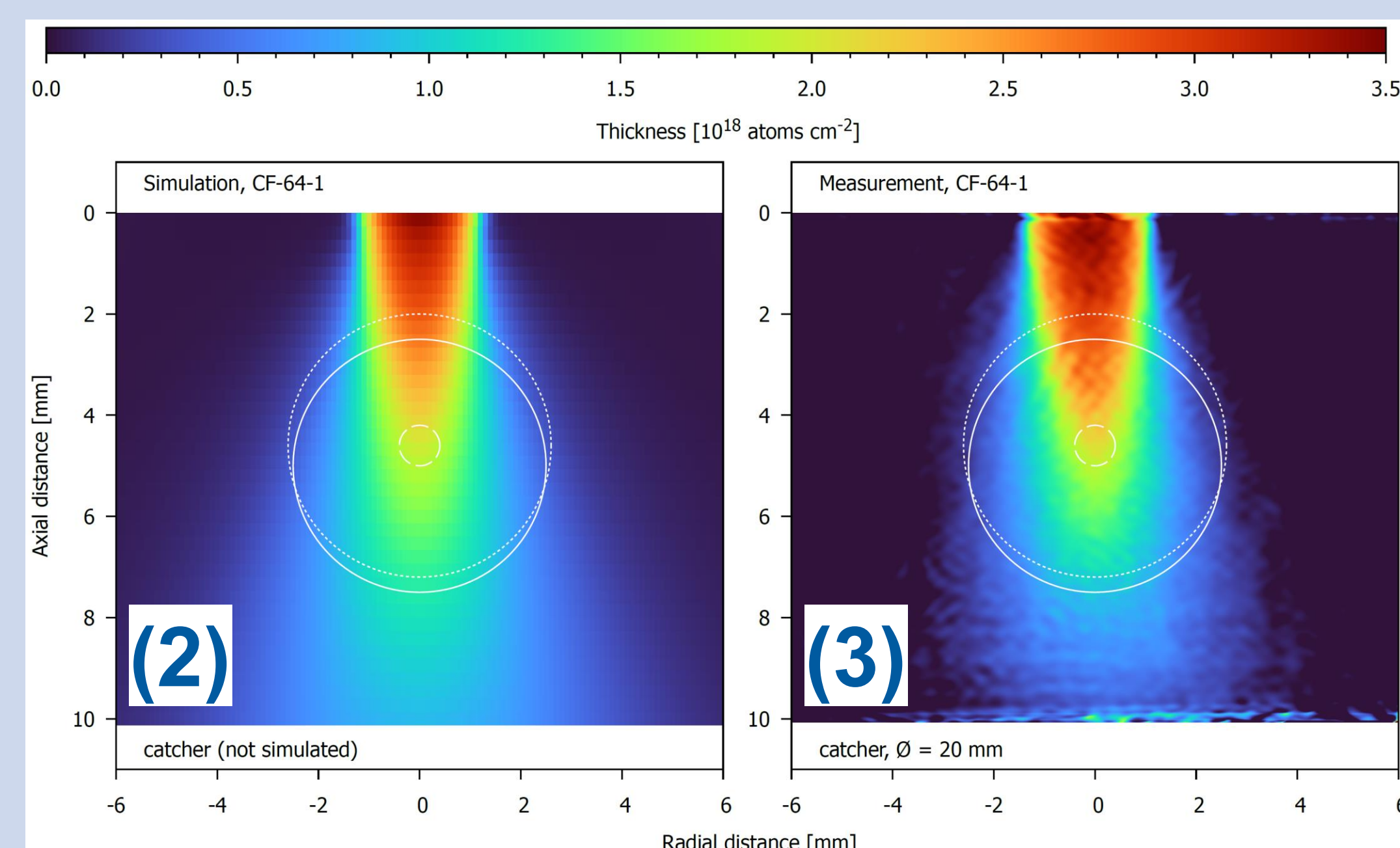
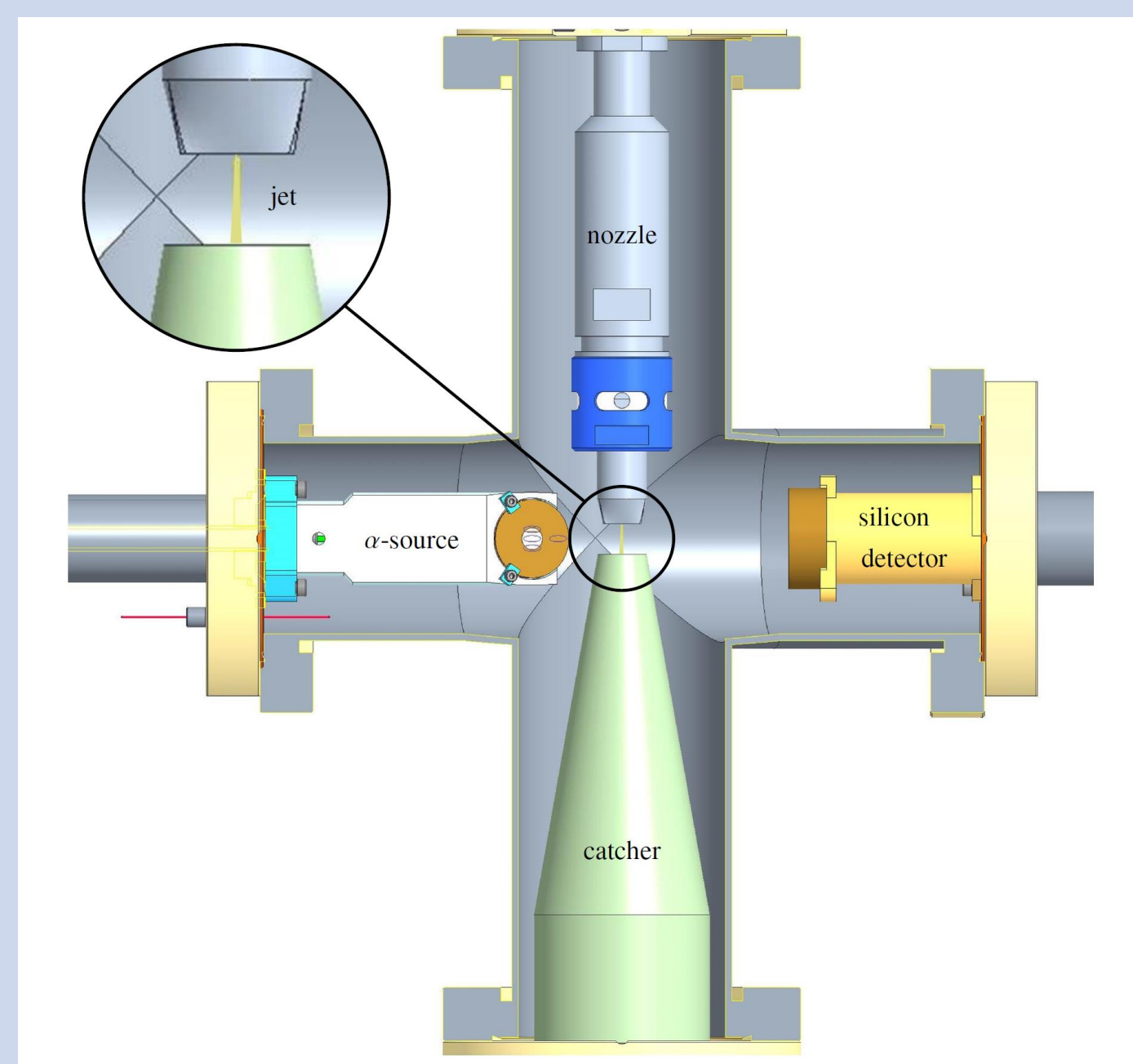
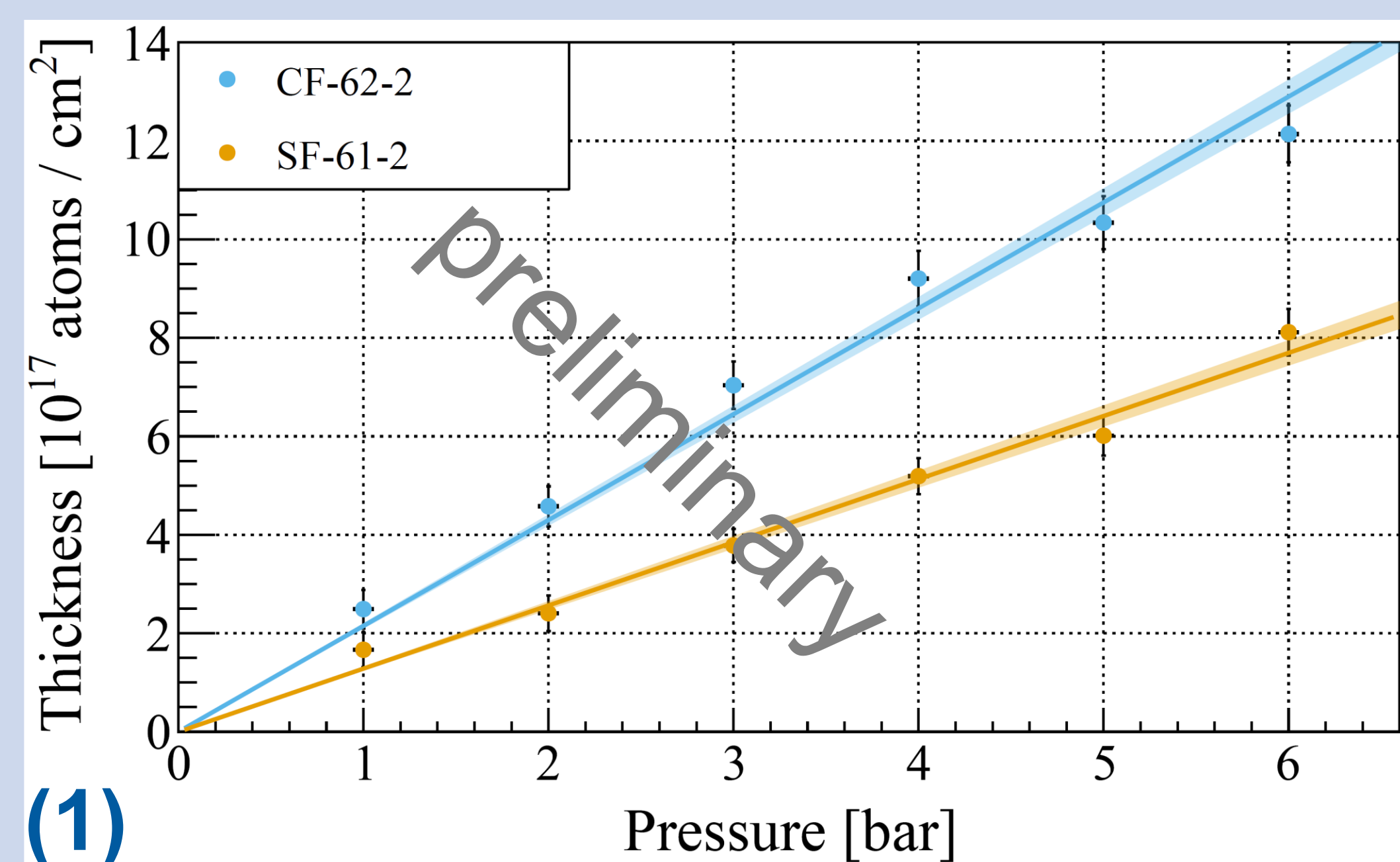
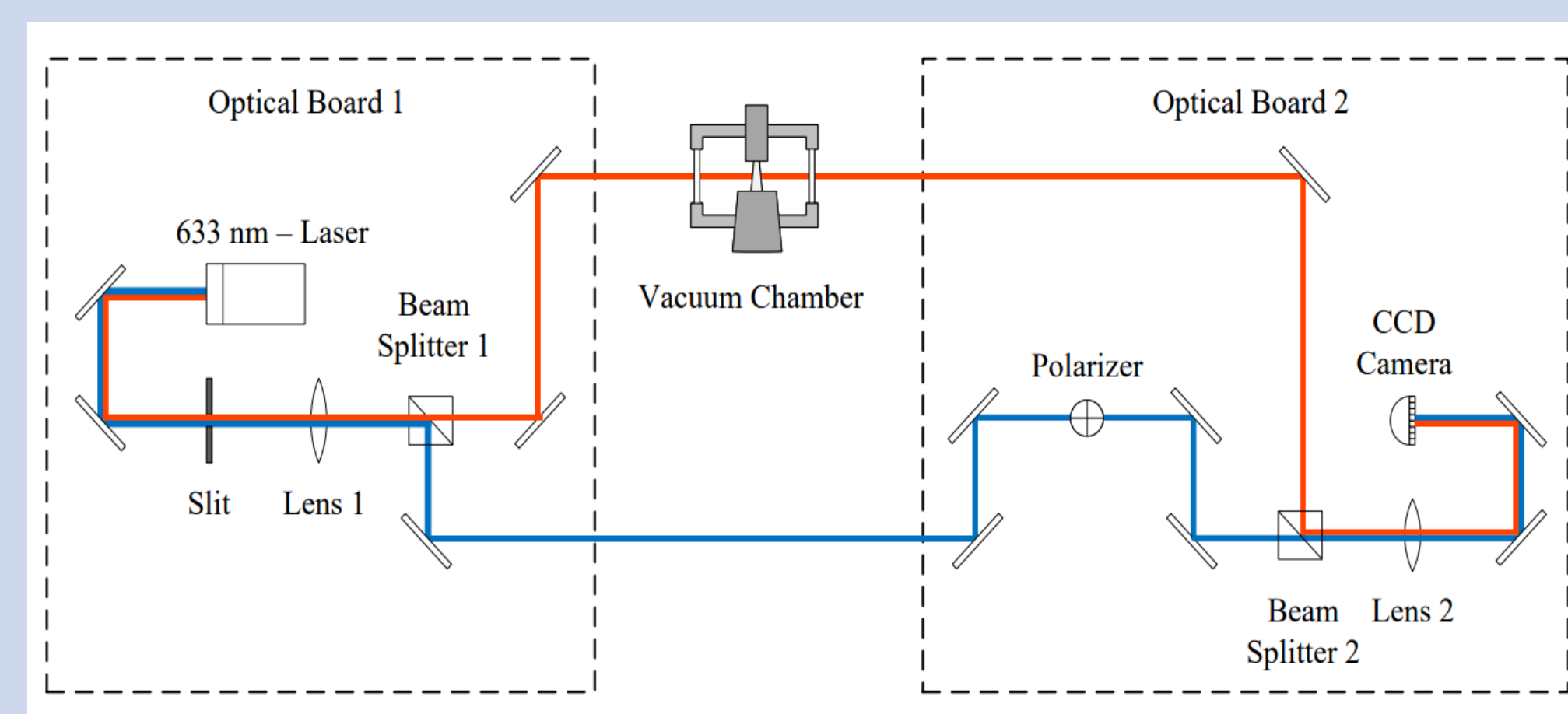
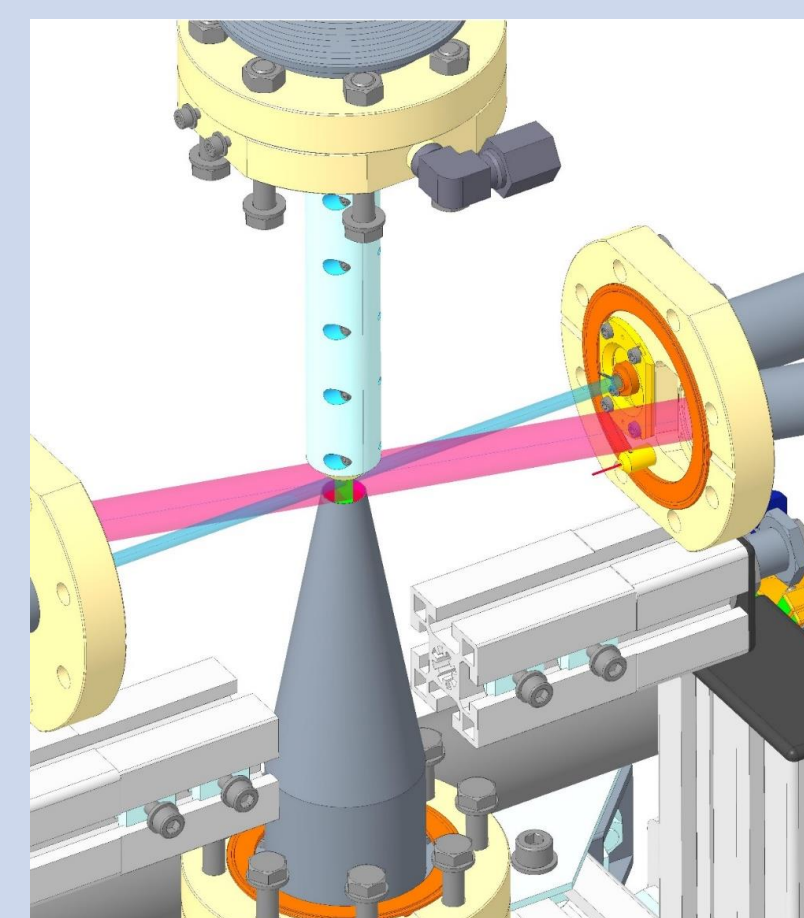
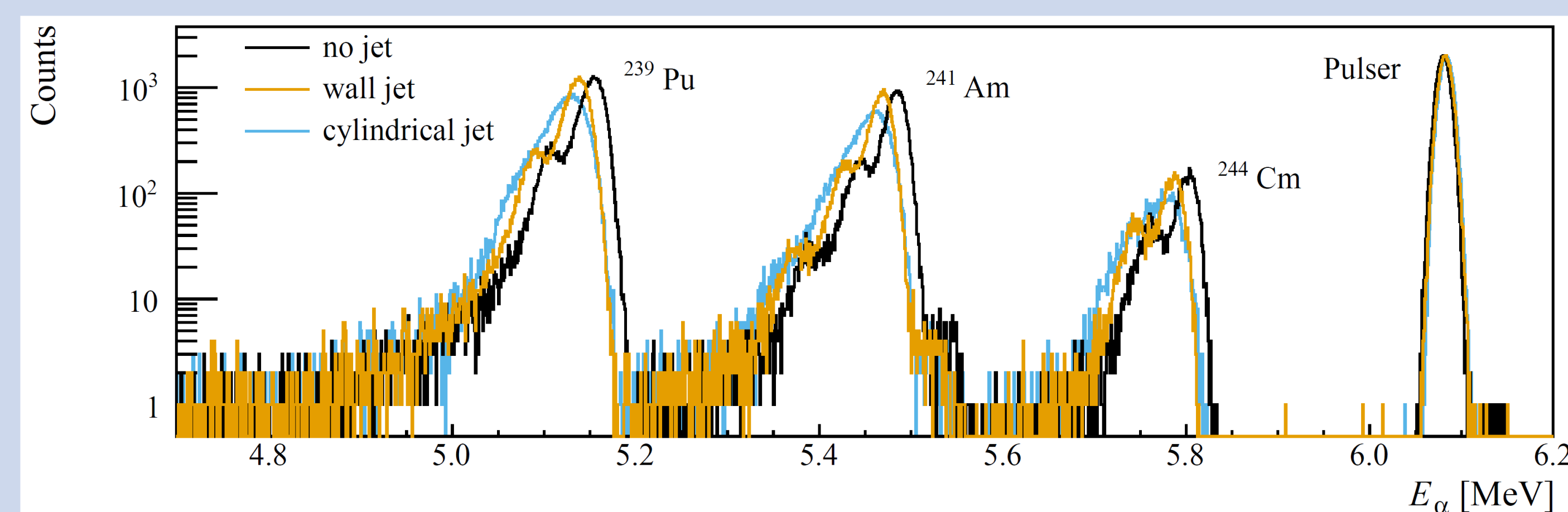
Felsenkeller Combined (Jet/Static) Gas Target Setup



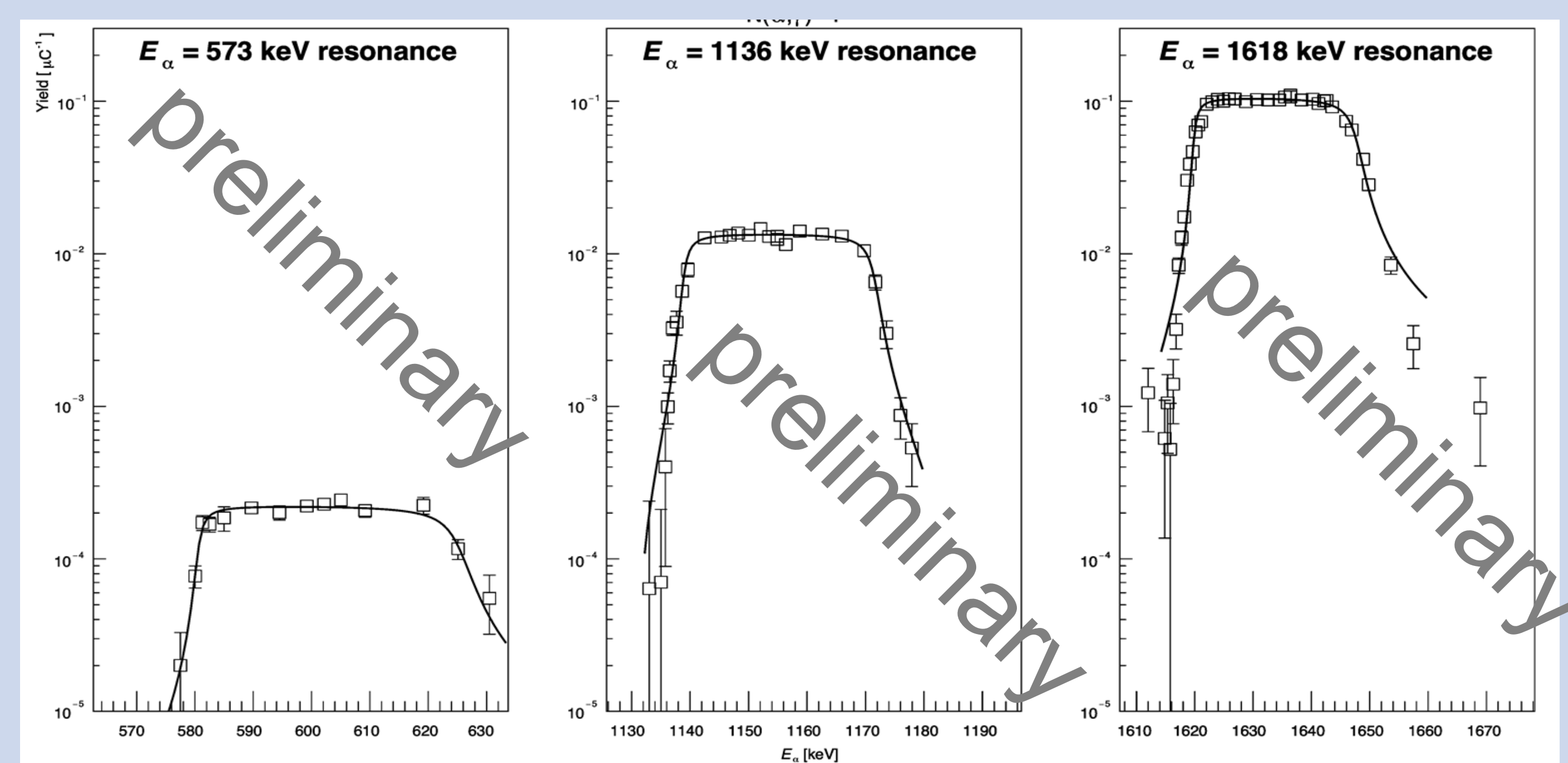
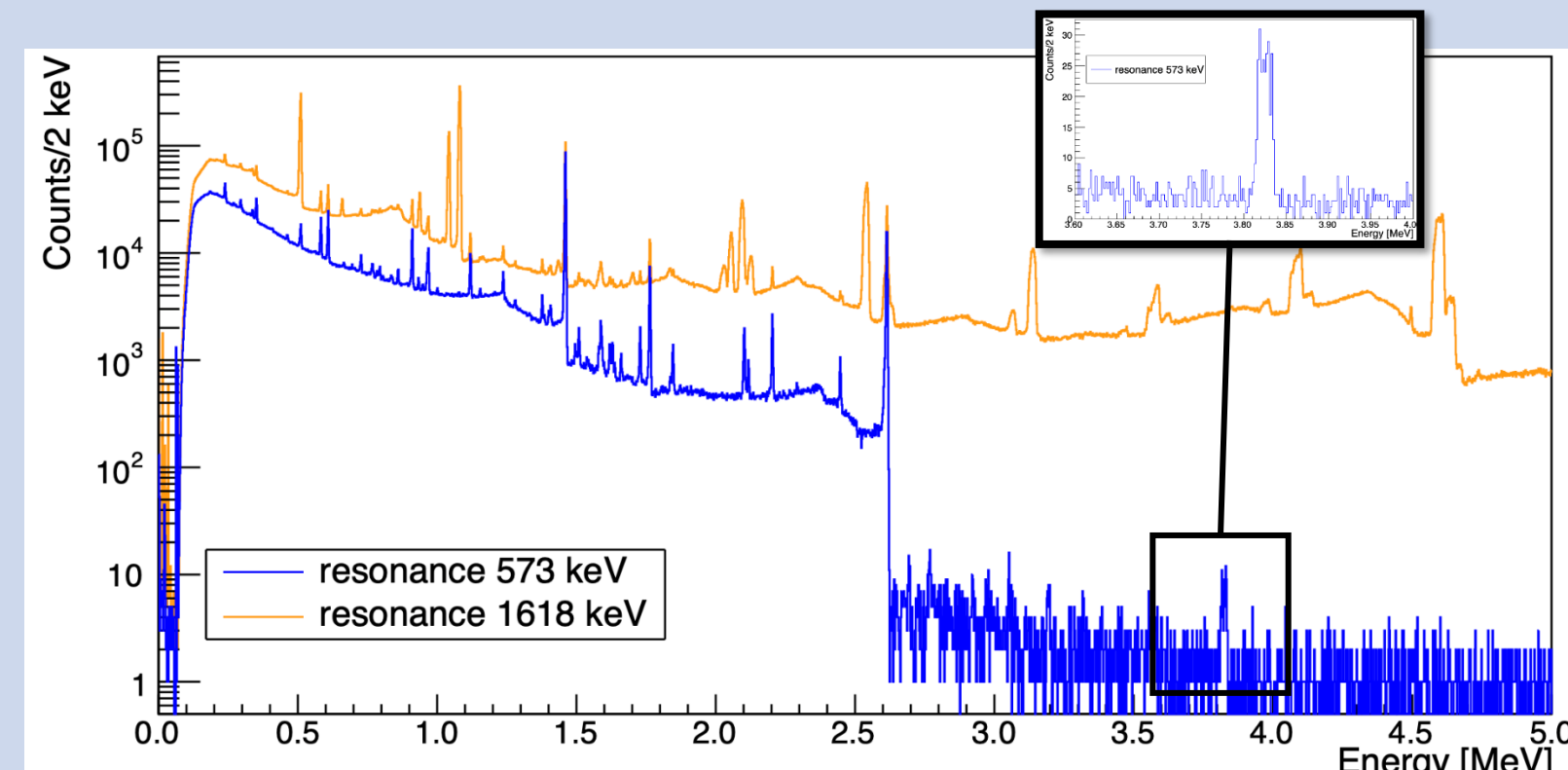
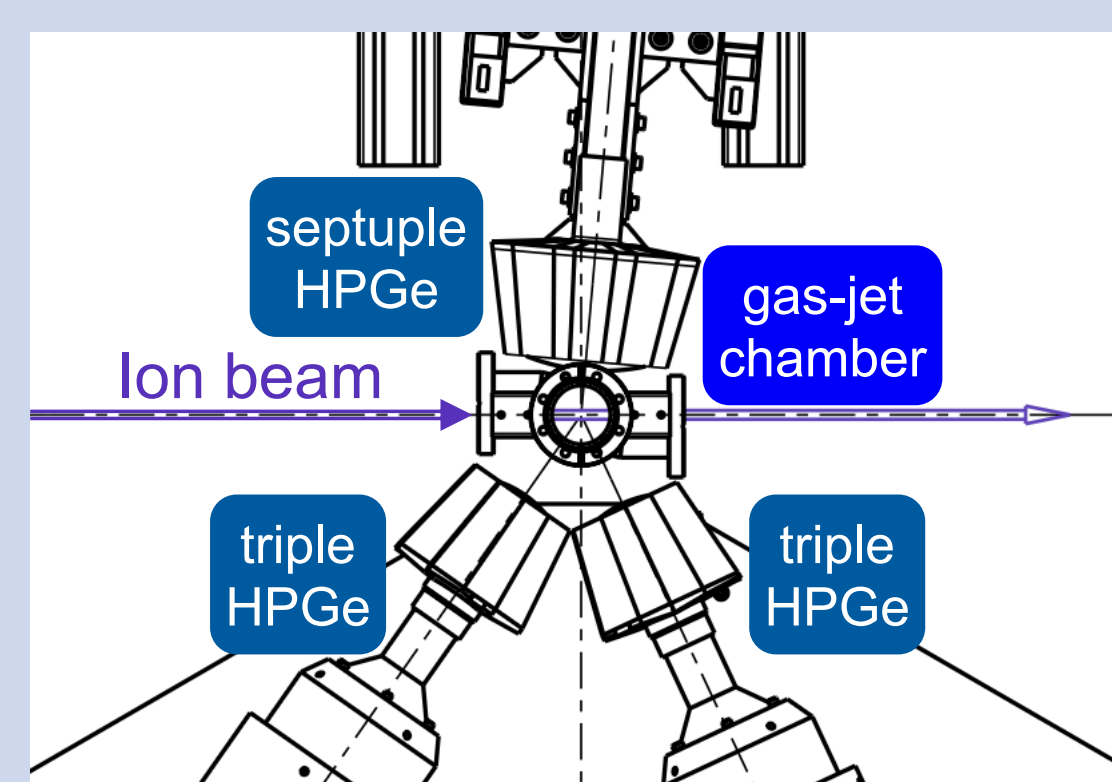
Slit-type glass nozzles from FMTC, LT



Jet thickness from (1) α energy loss, (2) laser interferometry, and (3) ANSYS Fluent simulation



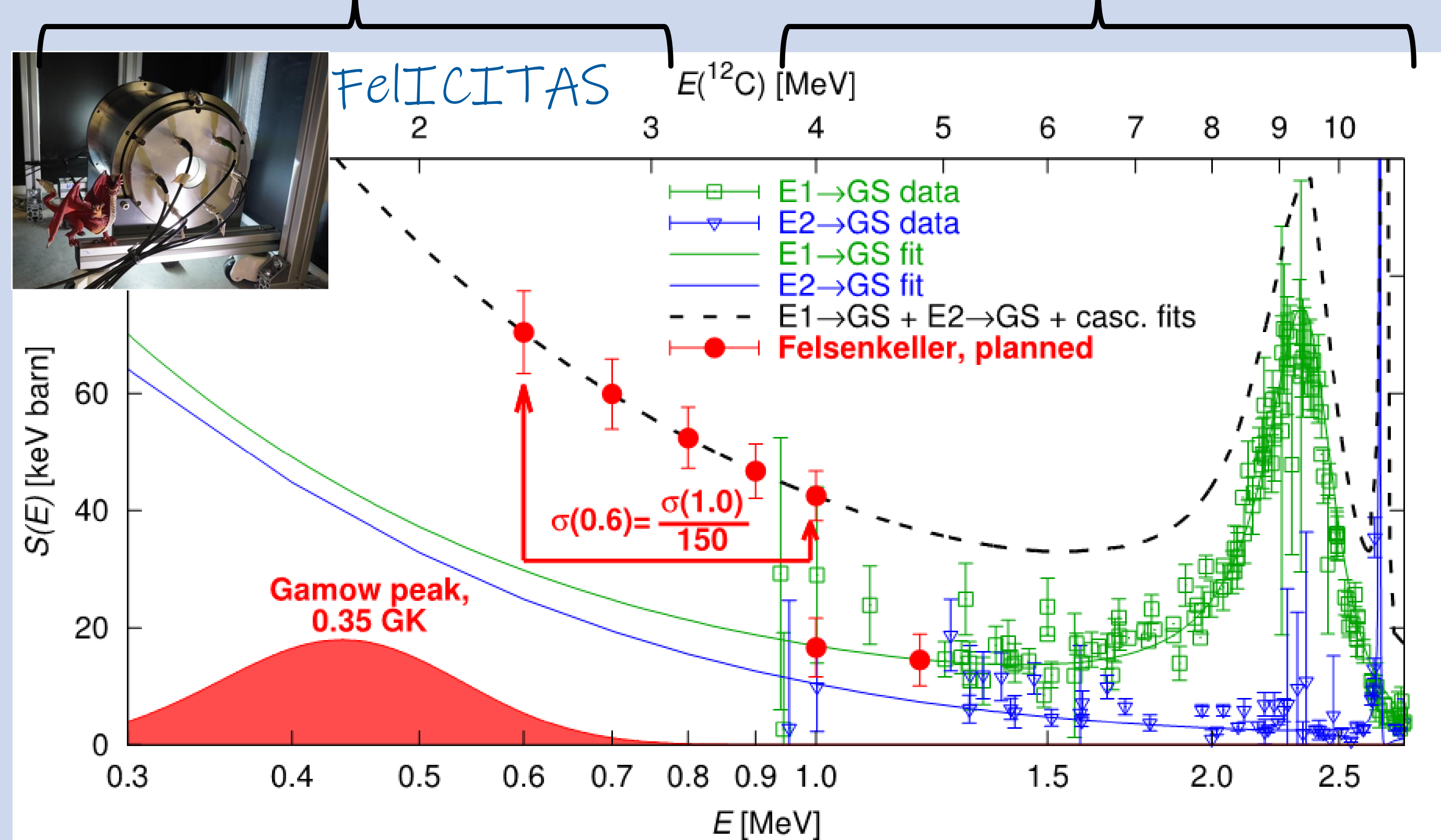
$^{14}\text{N}(\alpha, \gamma)^{18}\text{F}$ reaction studied at Felsenkeller



$^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ potential for Felsenkeller with $^{12}\text{C}^+$ beam on windowless gas targets

Low energy data planned to be measured with static gas target and γ -calorimeter

High energy data planned to be measured with gas-jet target and HPGe clusters



¹Institute of Radiation Physics, HZDR, Dresden, Germany

²Institute of Nuclear and Particle Physics, TU Dresden, Dresden, Germany