In-situ Dynamic Light Scattering on Small Angle Neutron Scattering Instruments: Considerations for LLB and ILL

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A high pressure cell for small angle neutron scattering up to 500 MPa in combination with light scattering to investigate liquid samples

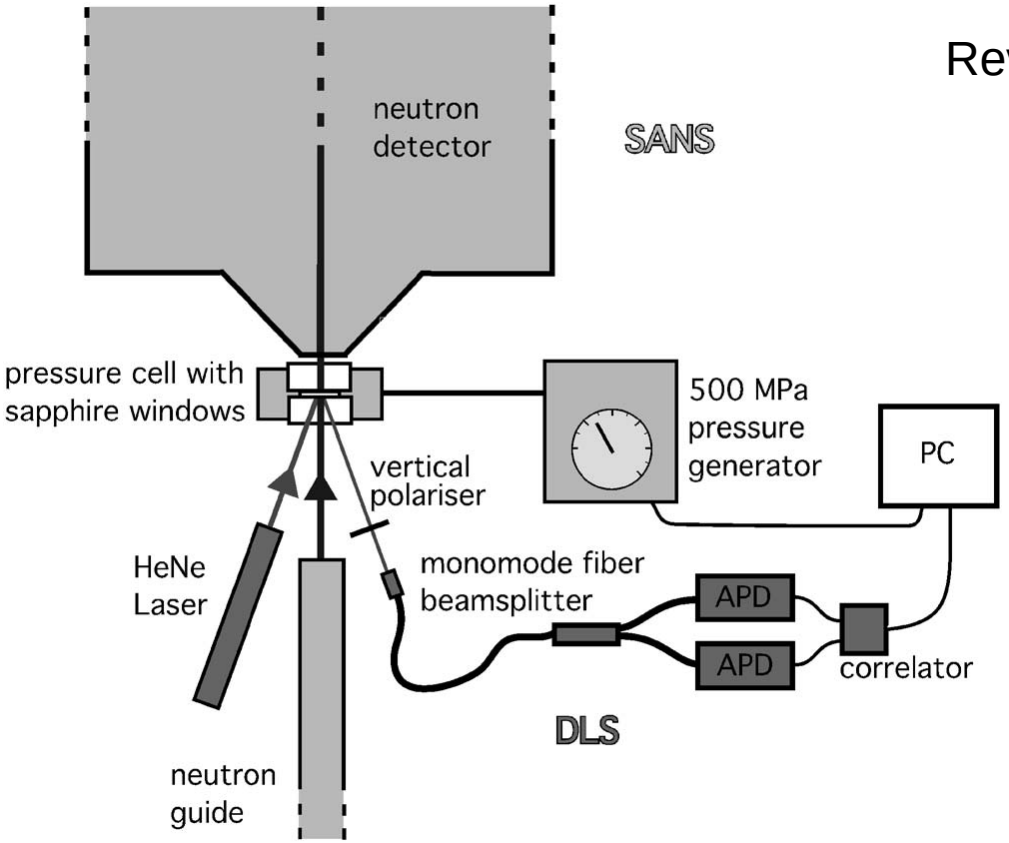

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FIG. 5. Schematic sketch of the setup which allows simultaneous SANS and DLS measurements.

New sample environment opportunities on D11

P. Lindner & R Schweins

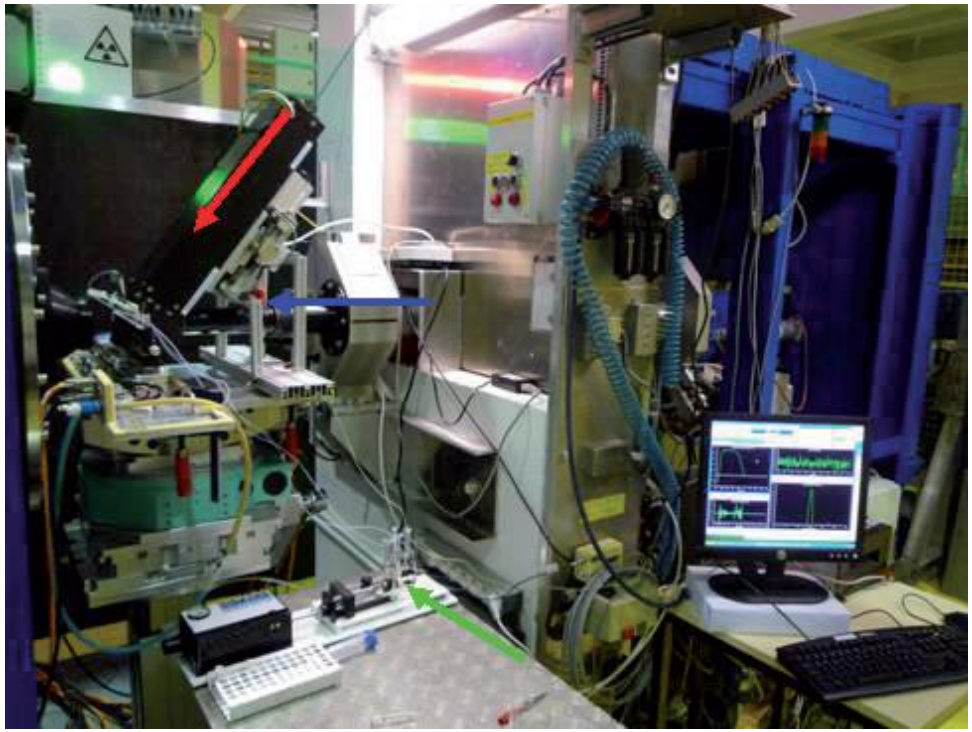

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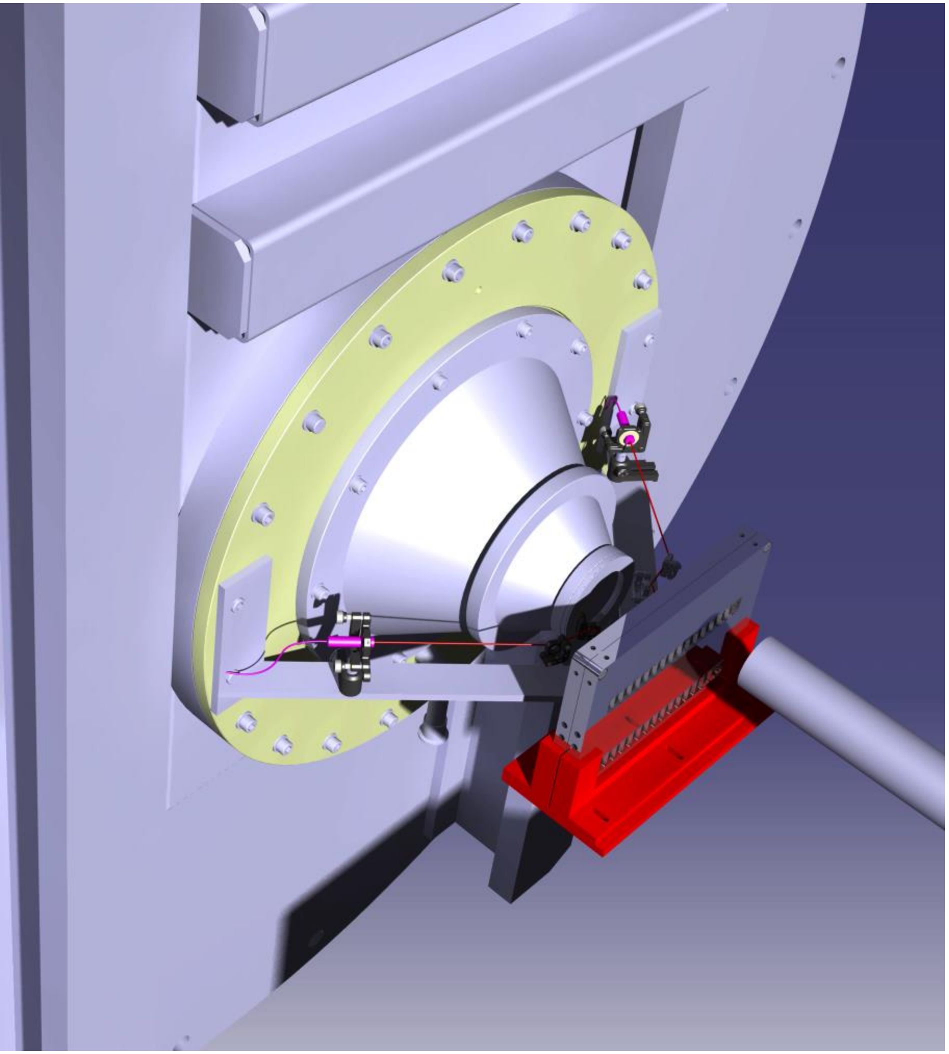
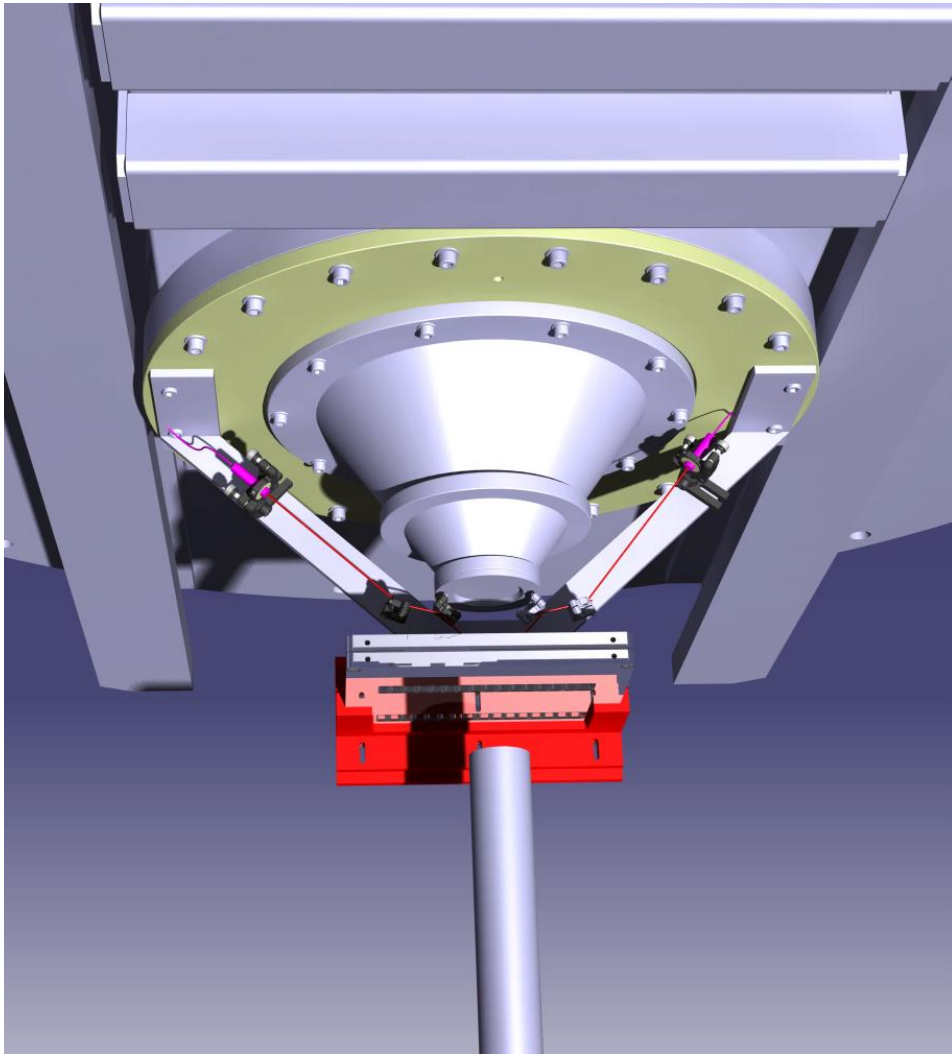
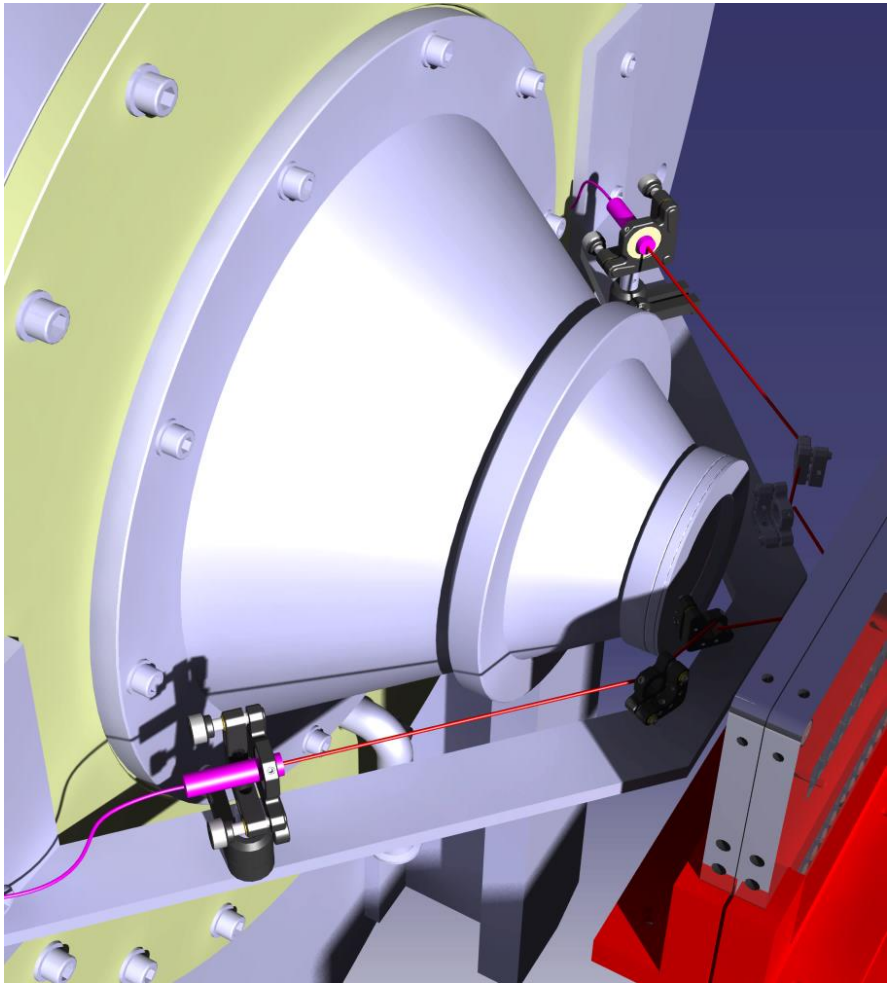
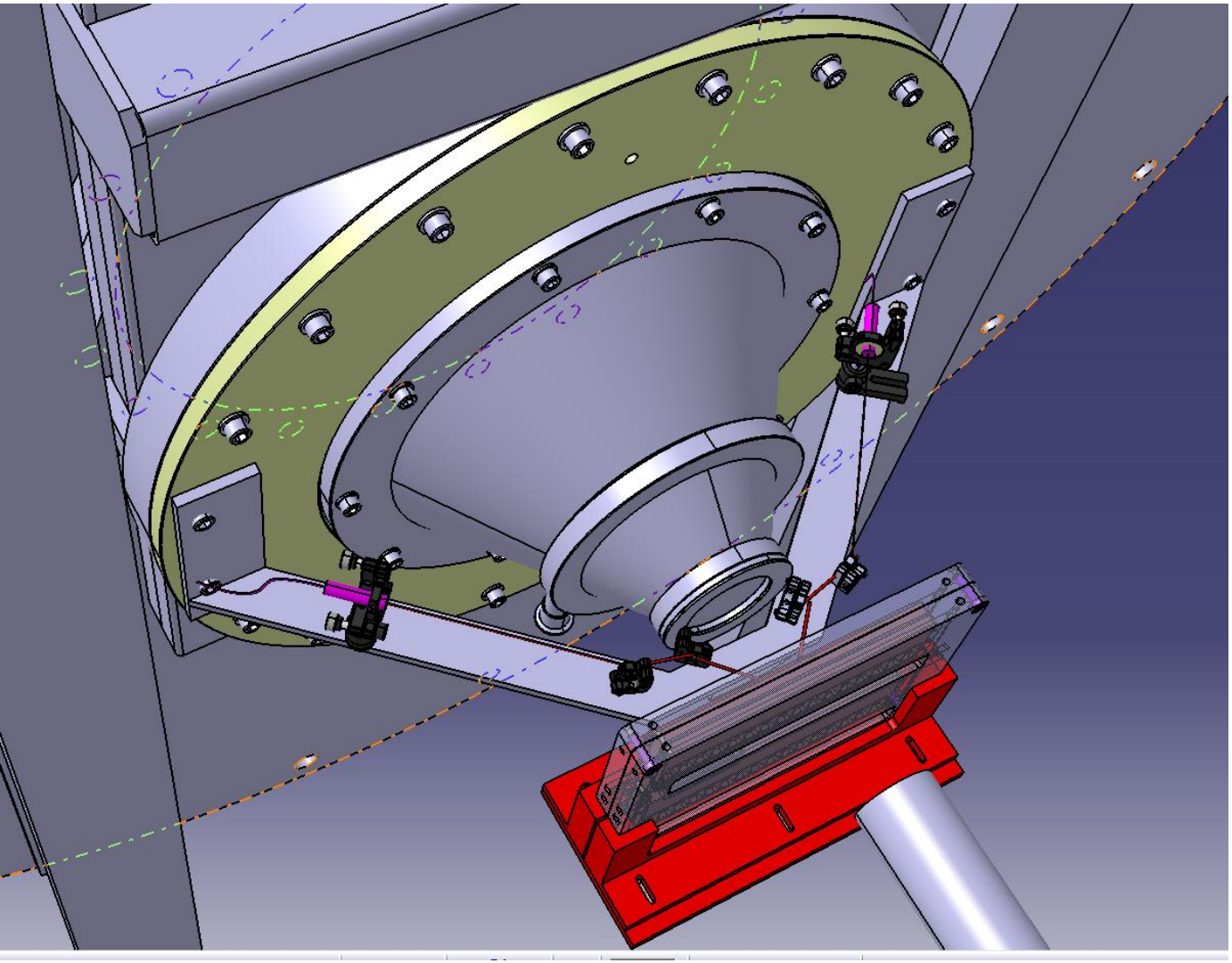
Figure 1: DLS-SANS set-up at D11 (courtesy of Th. Nawroth, U Mainz). The red arrow marks the incident laser light direction, the blue arrow the incident neutron beam direction and the green arrow highlights the stopped-flow mixing device.

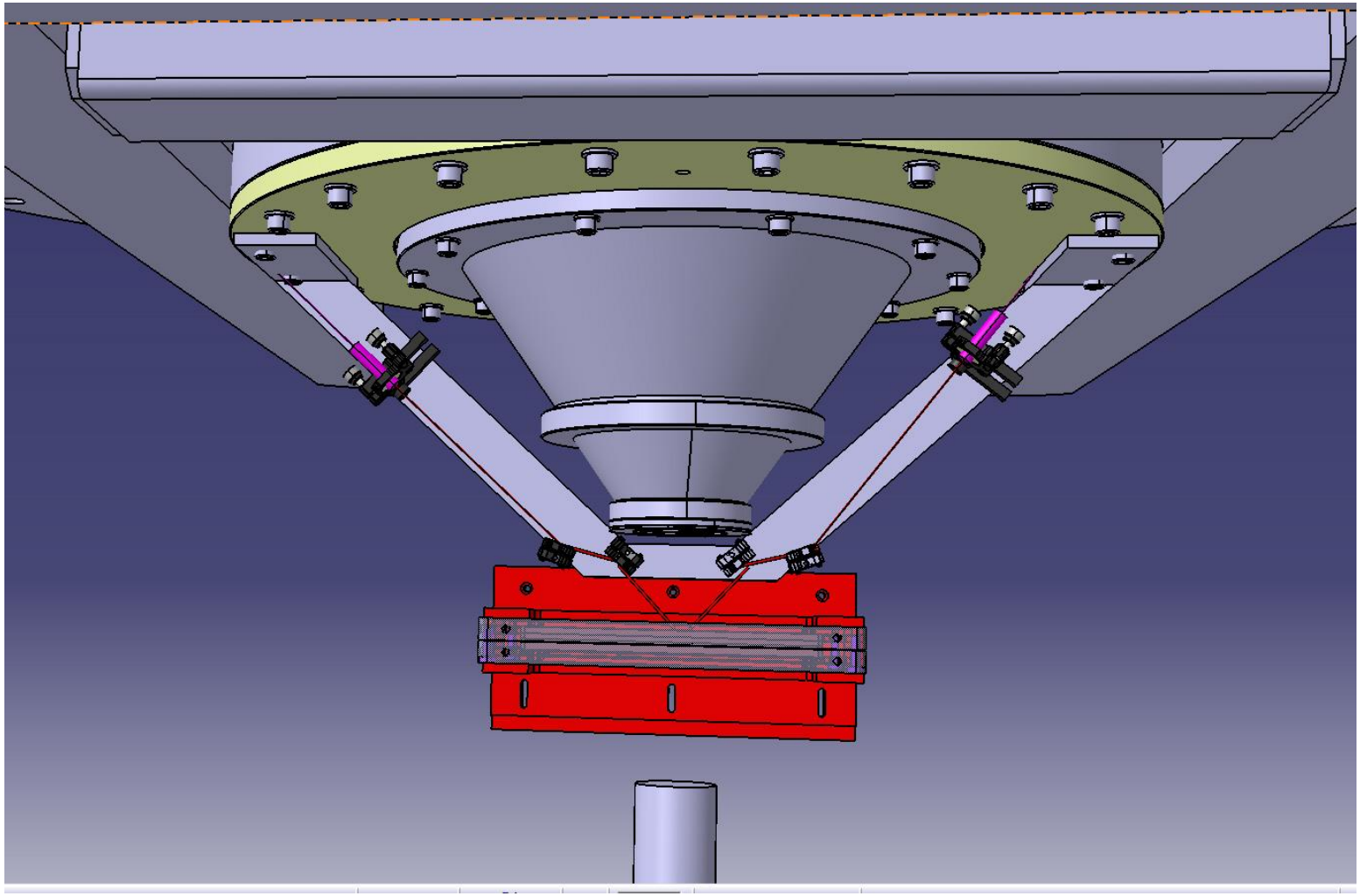
Considerations for LLB or ILL

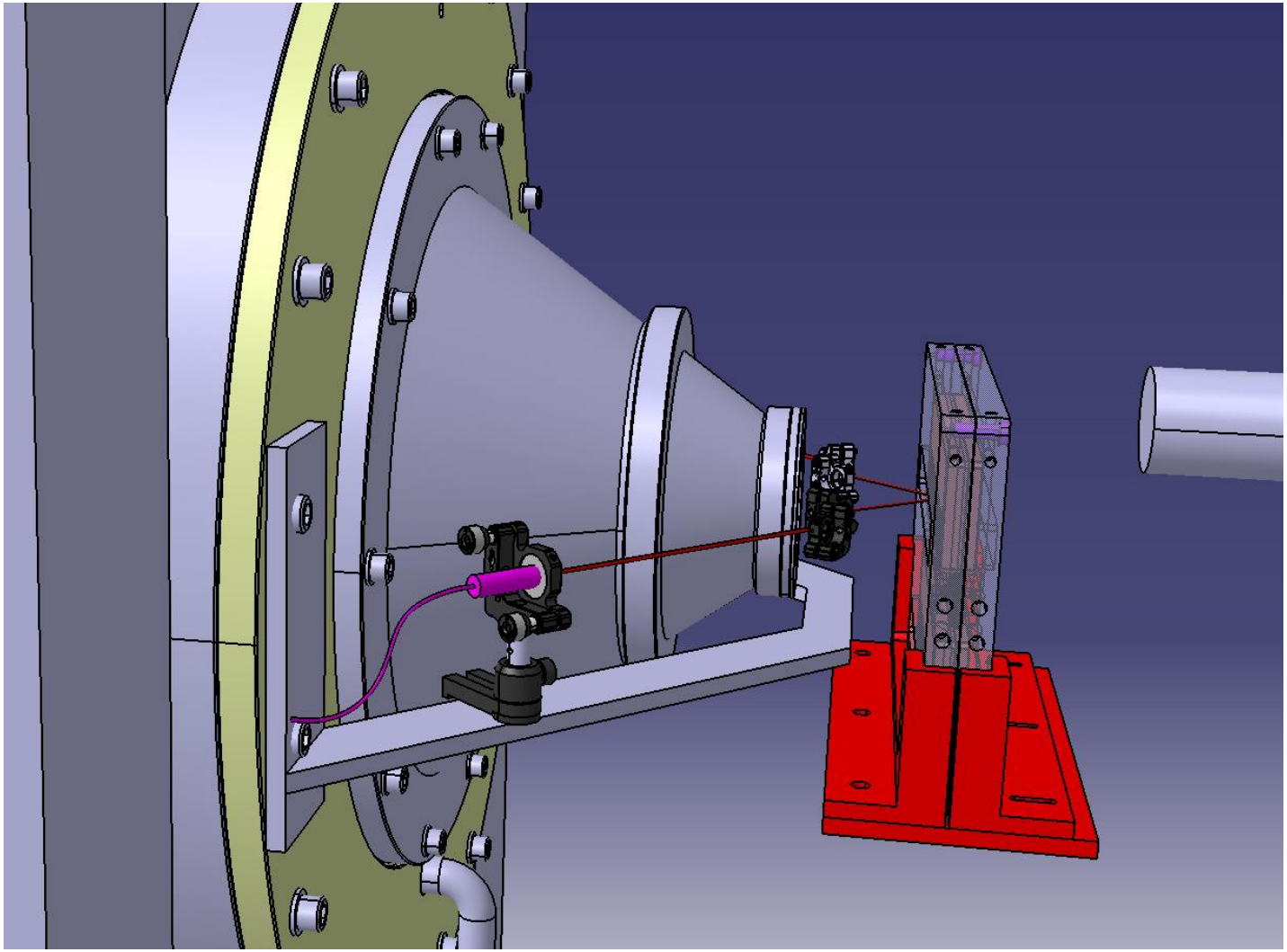


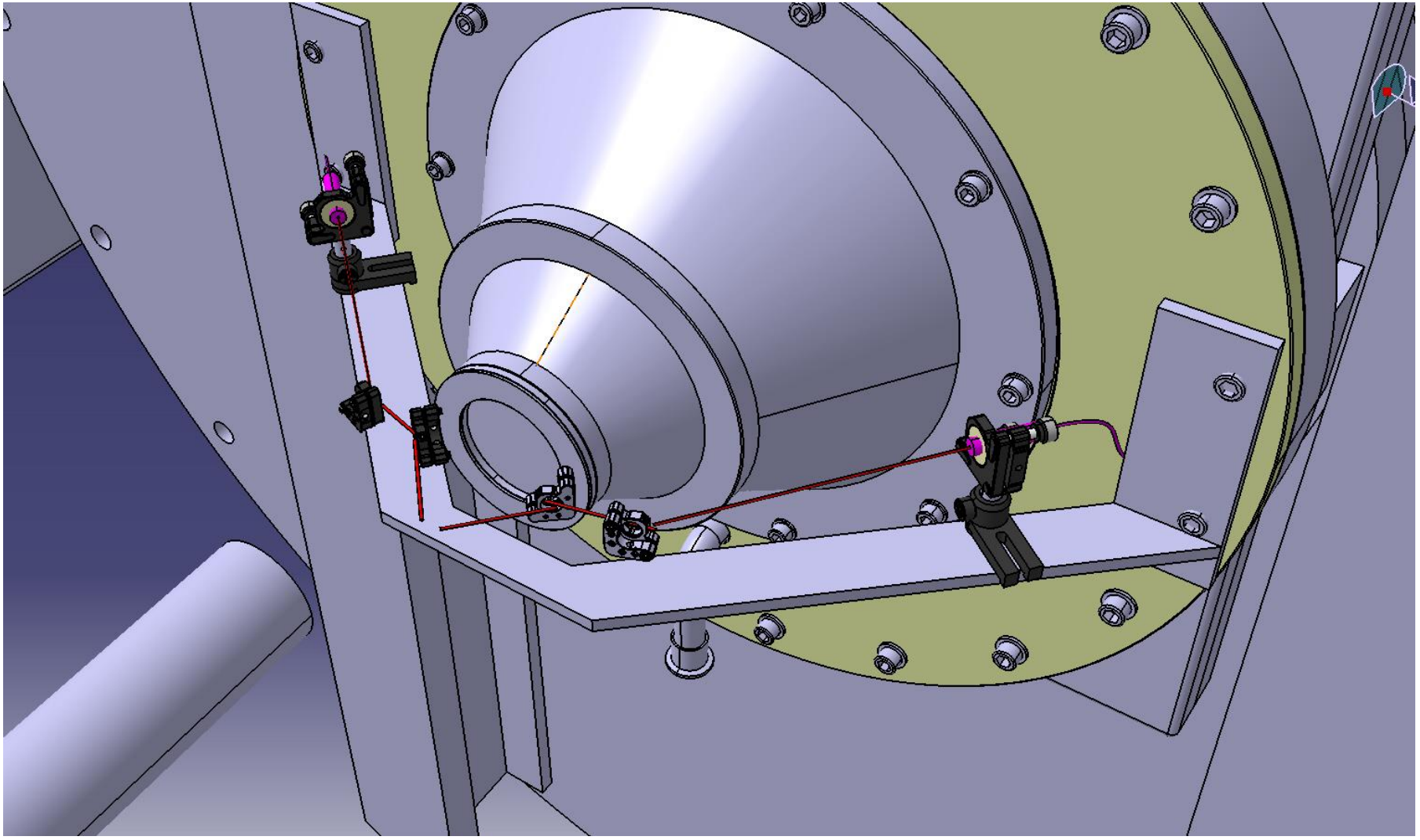


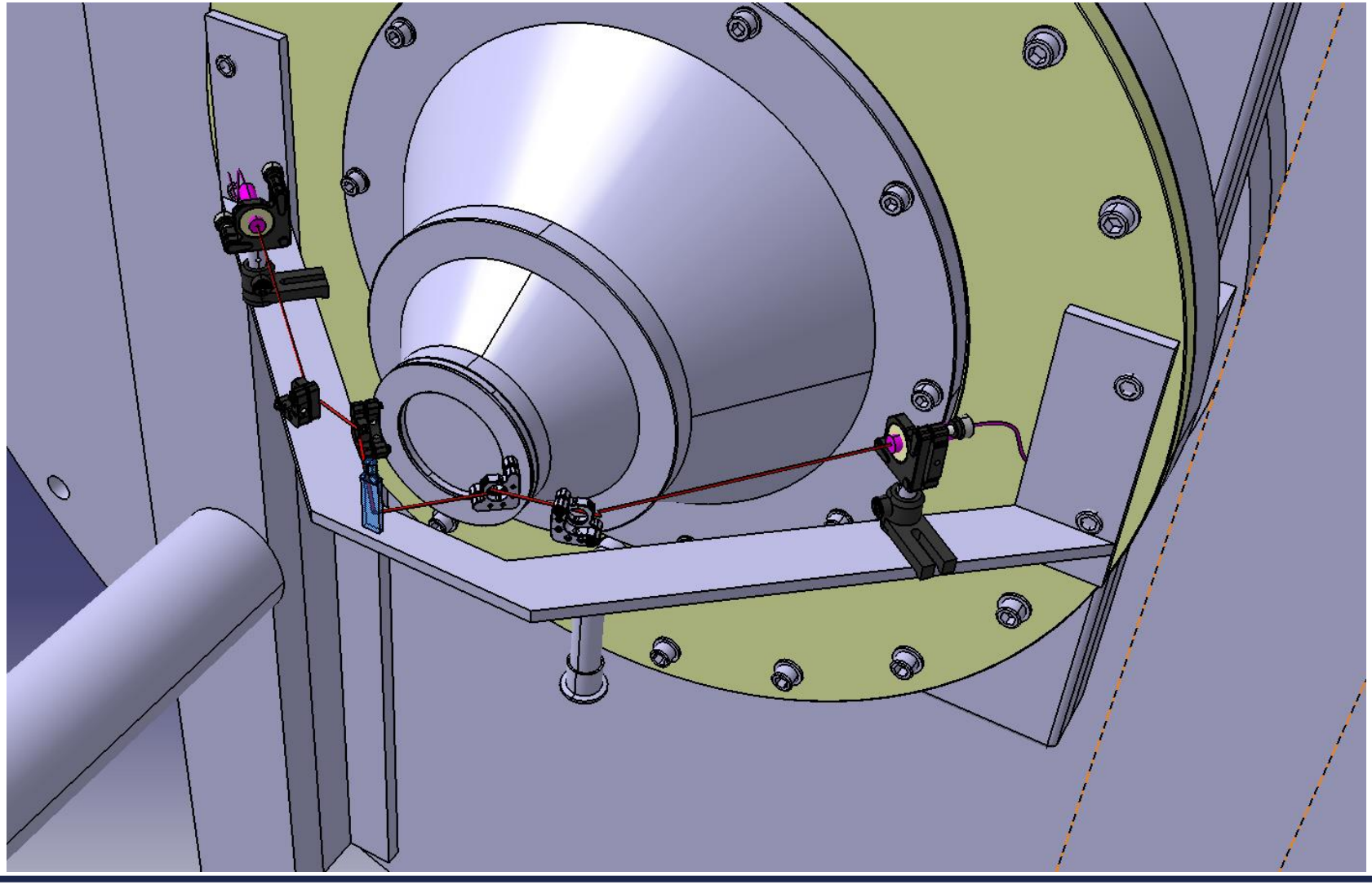


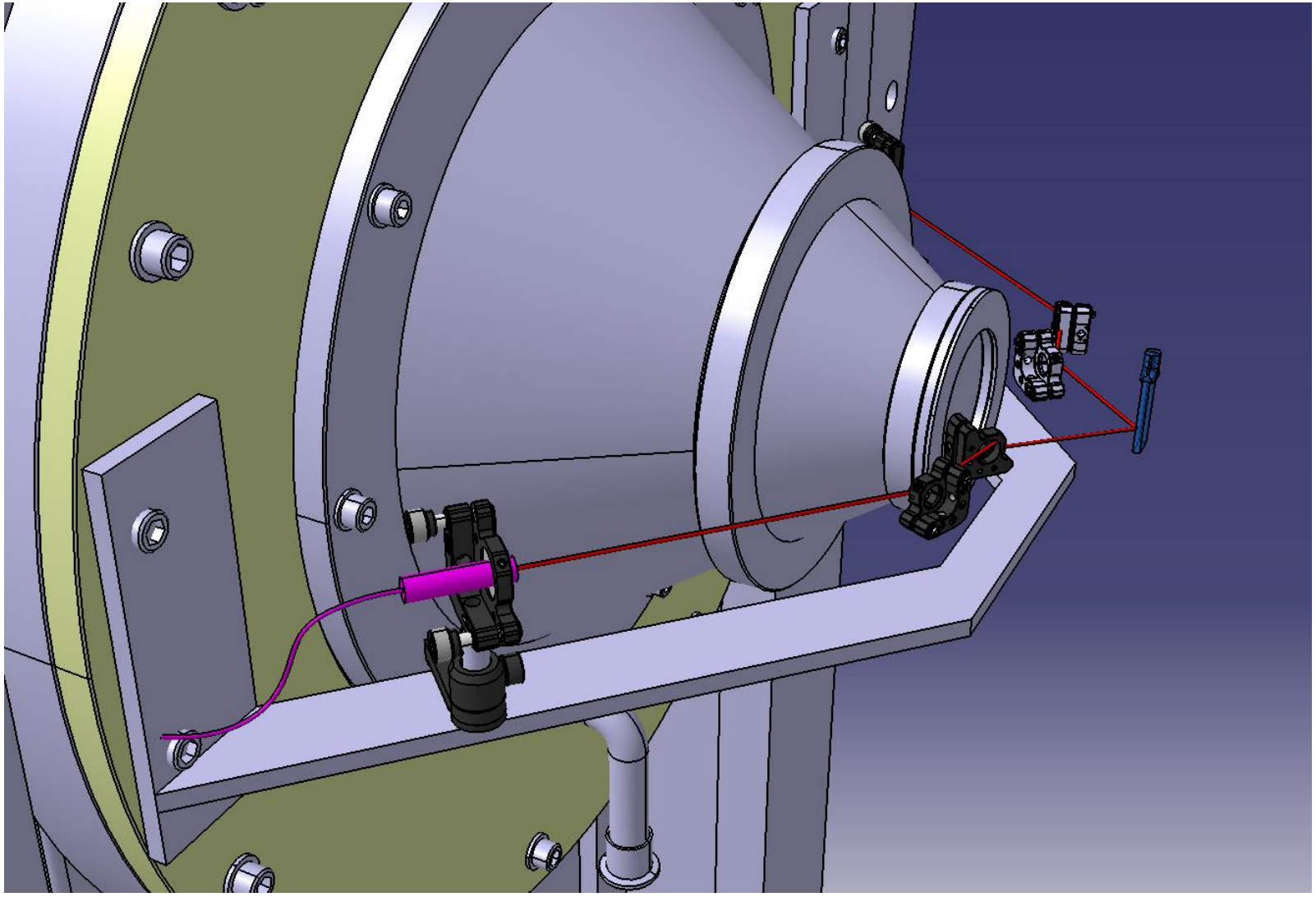


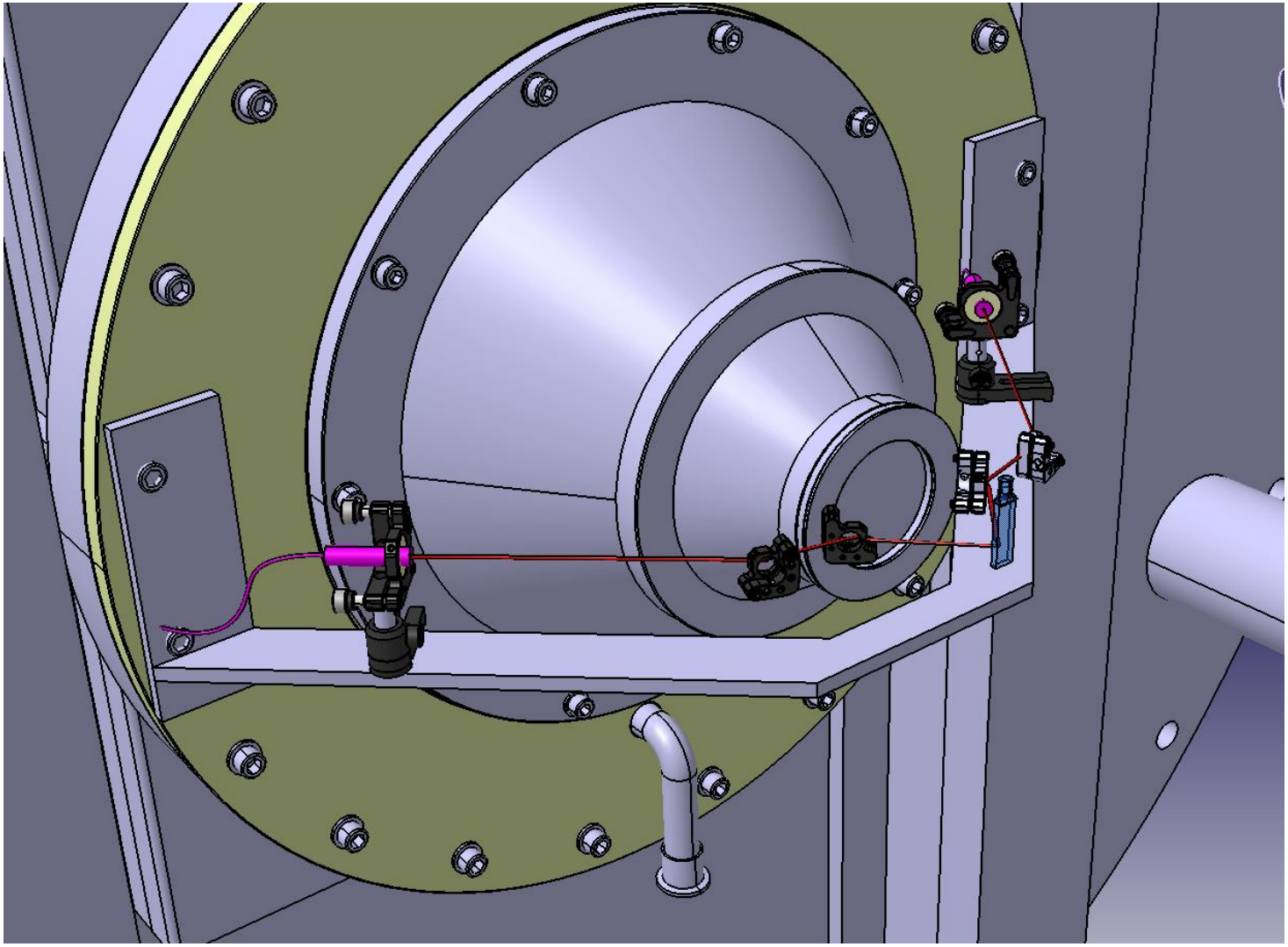




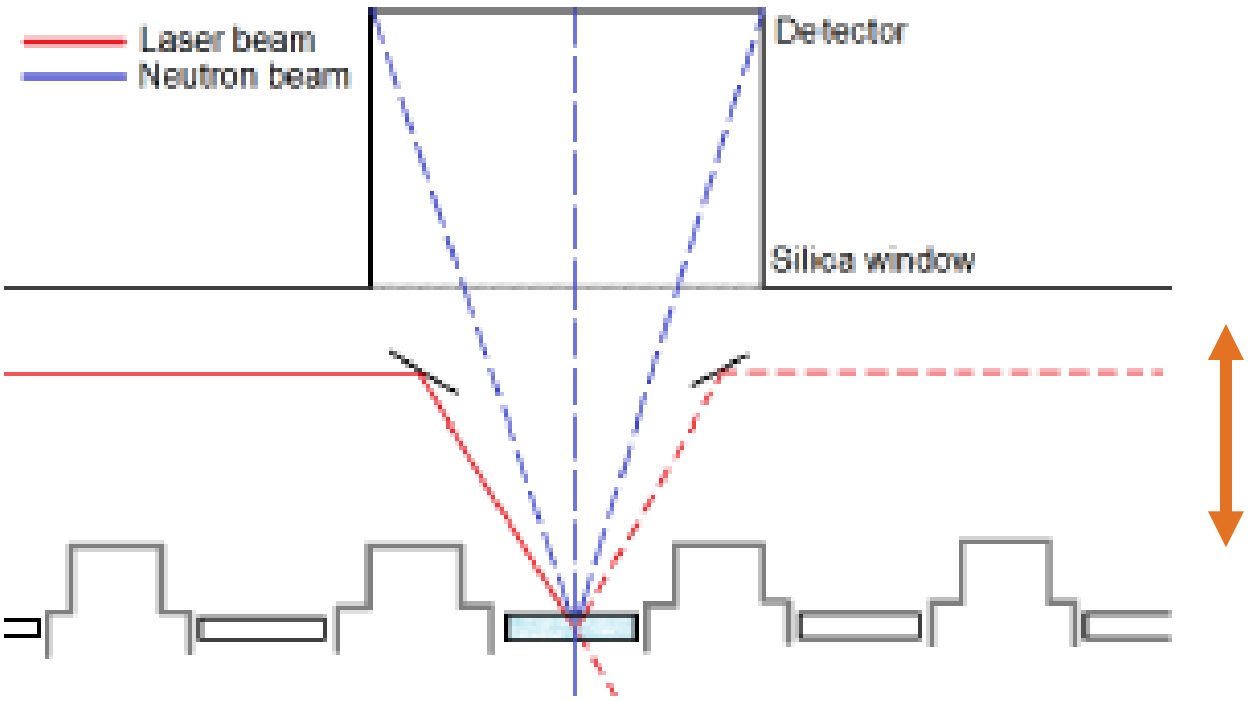






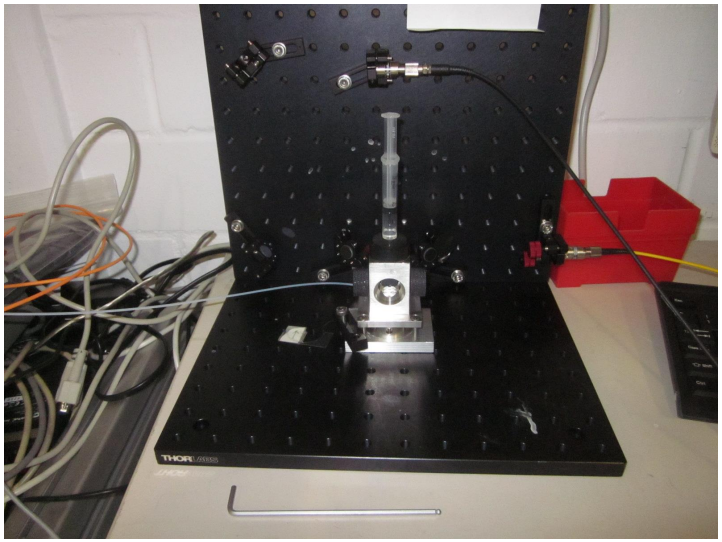


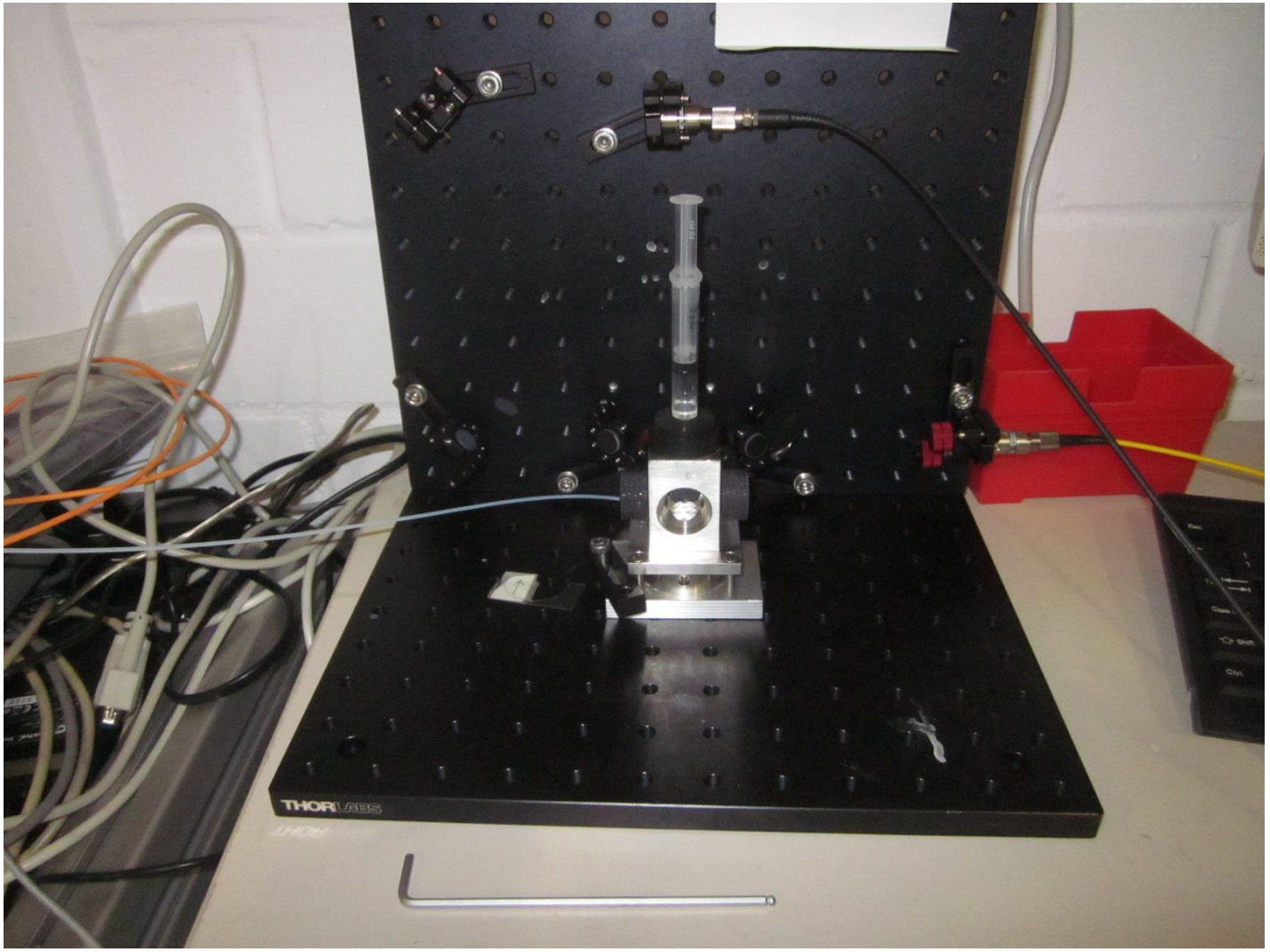
Optical access to cell in sample changer vitally important



Distance of sample changer to detector window is important

A pre-aligned set-up for a combined stopped flow and DLS-set up

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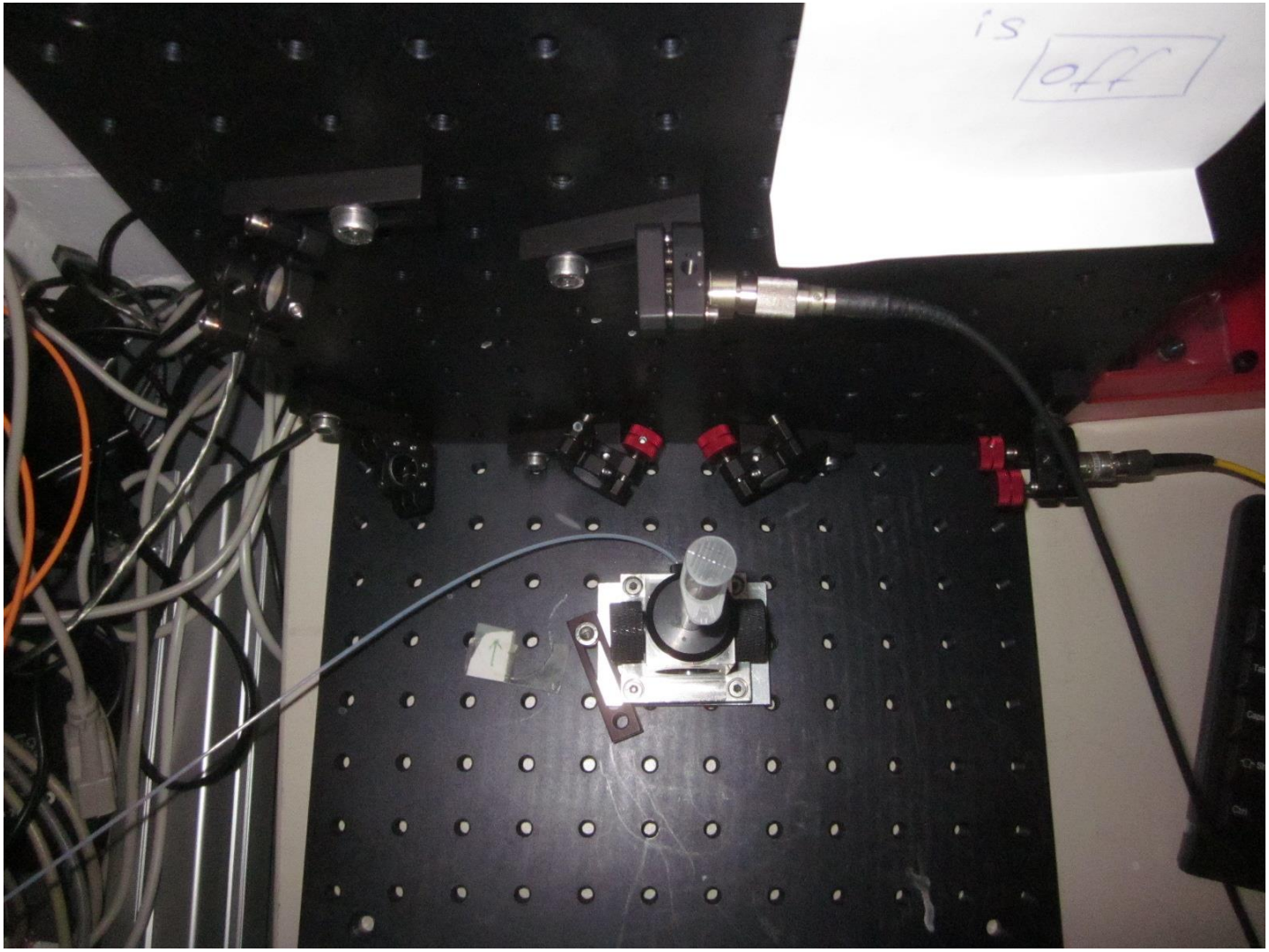
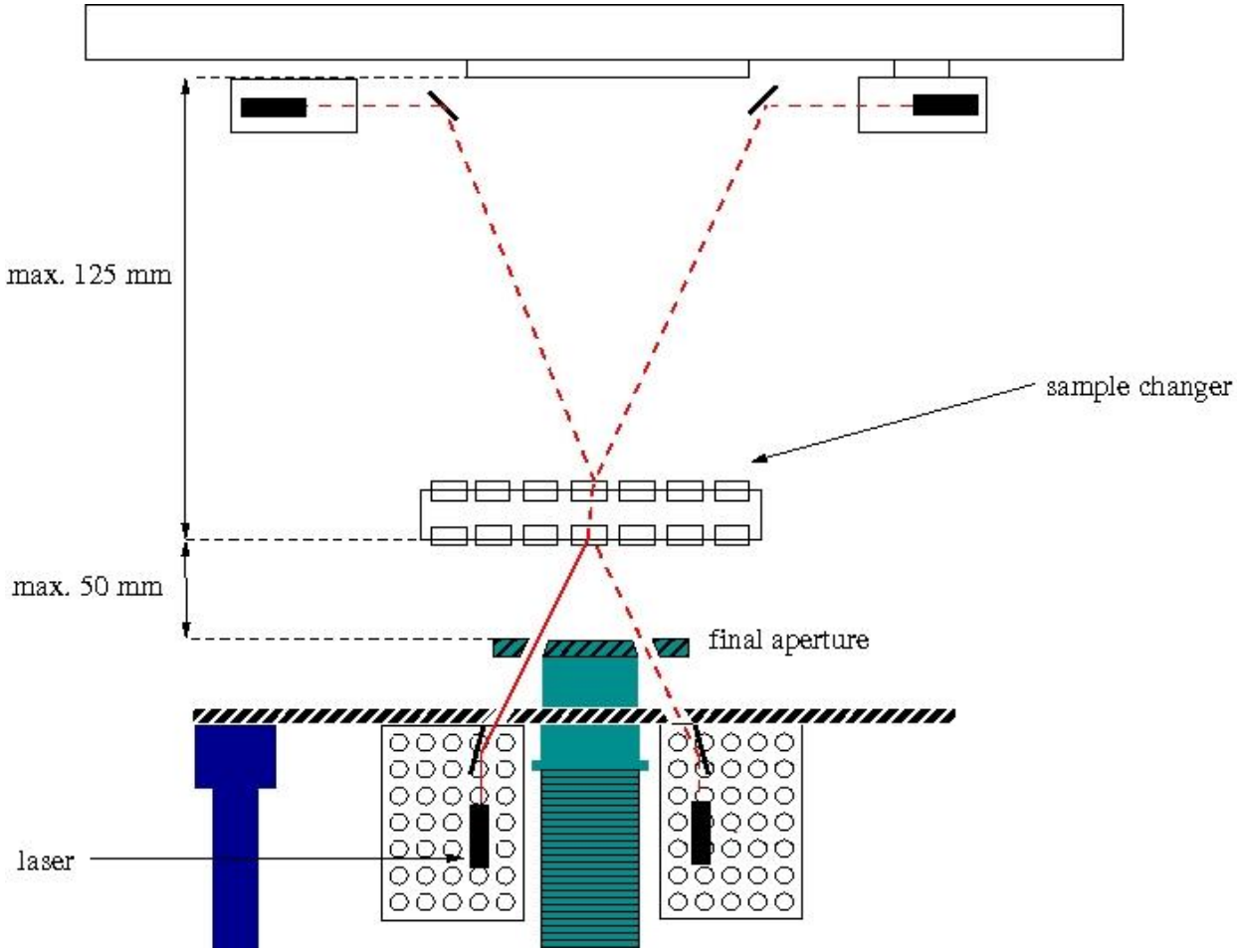

is
off

future projects at KWS-2 at MLZ



Conclusions/Remarks

- Sample holders need to be characterized with respect to their opening angle on the neutron detector tube side
- One has to talk to the producing engineers and companies to take measures to leave enough optical access for light scattering purposes
- A pre-aligned base plate is the best and easiest option for the September beamtime
- Options to fix the DLS-set-up at the final apperture in front of the sample need to be looked into at KWS-2 and ILL/LLB

Thanks to... ... the KWS2/DLS/SLS-Team:

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and you for your attention!