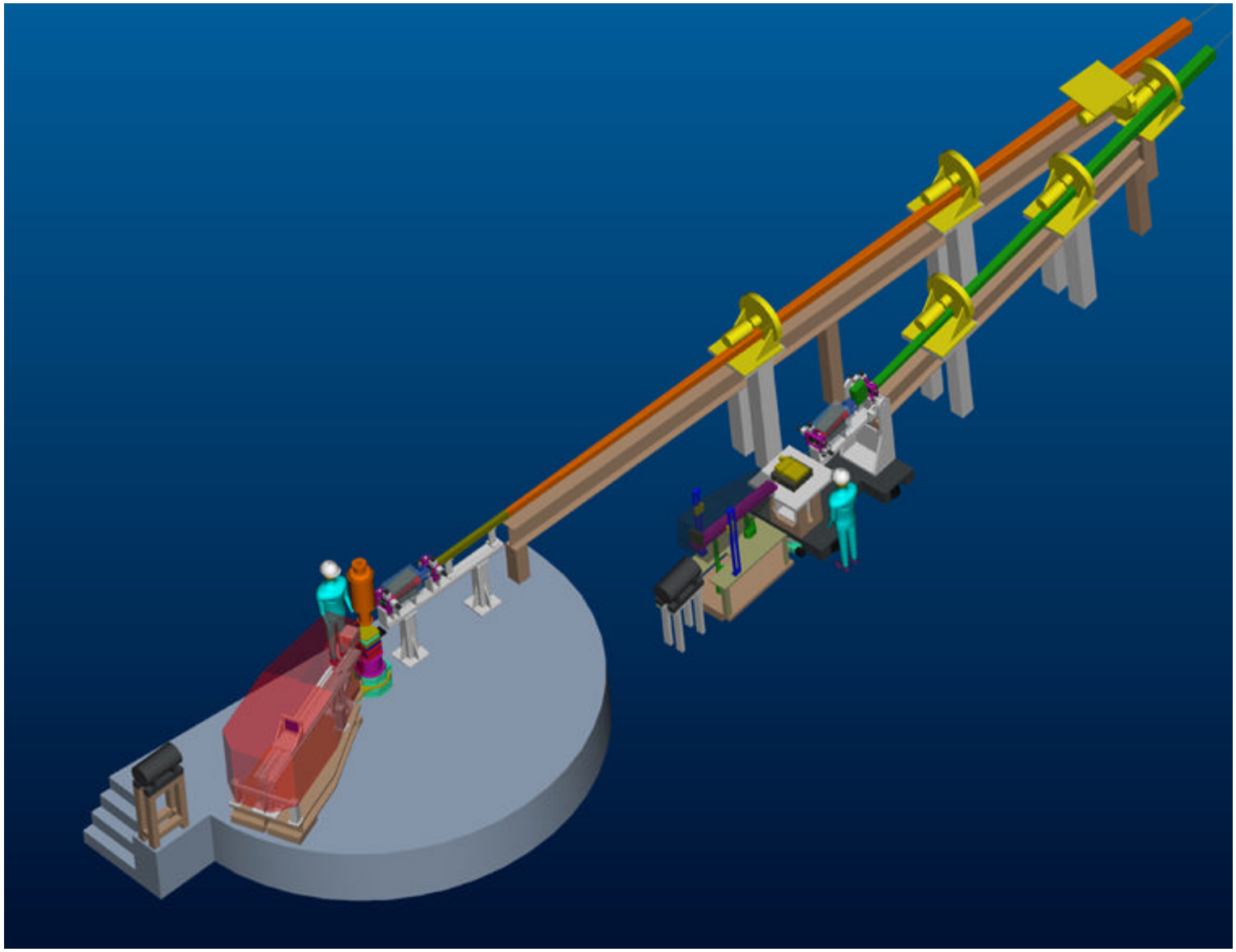
Three-Dimensional Views of the SNS Magnetism Reflectometer

Frank Klose

Spallation Neutron Source
Oak Ridge National Laboratory

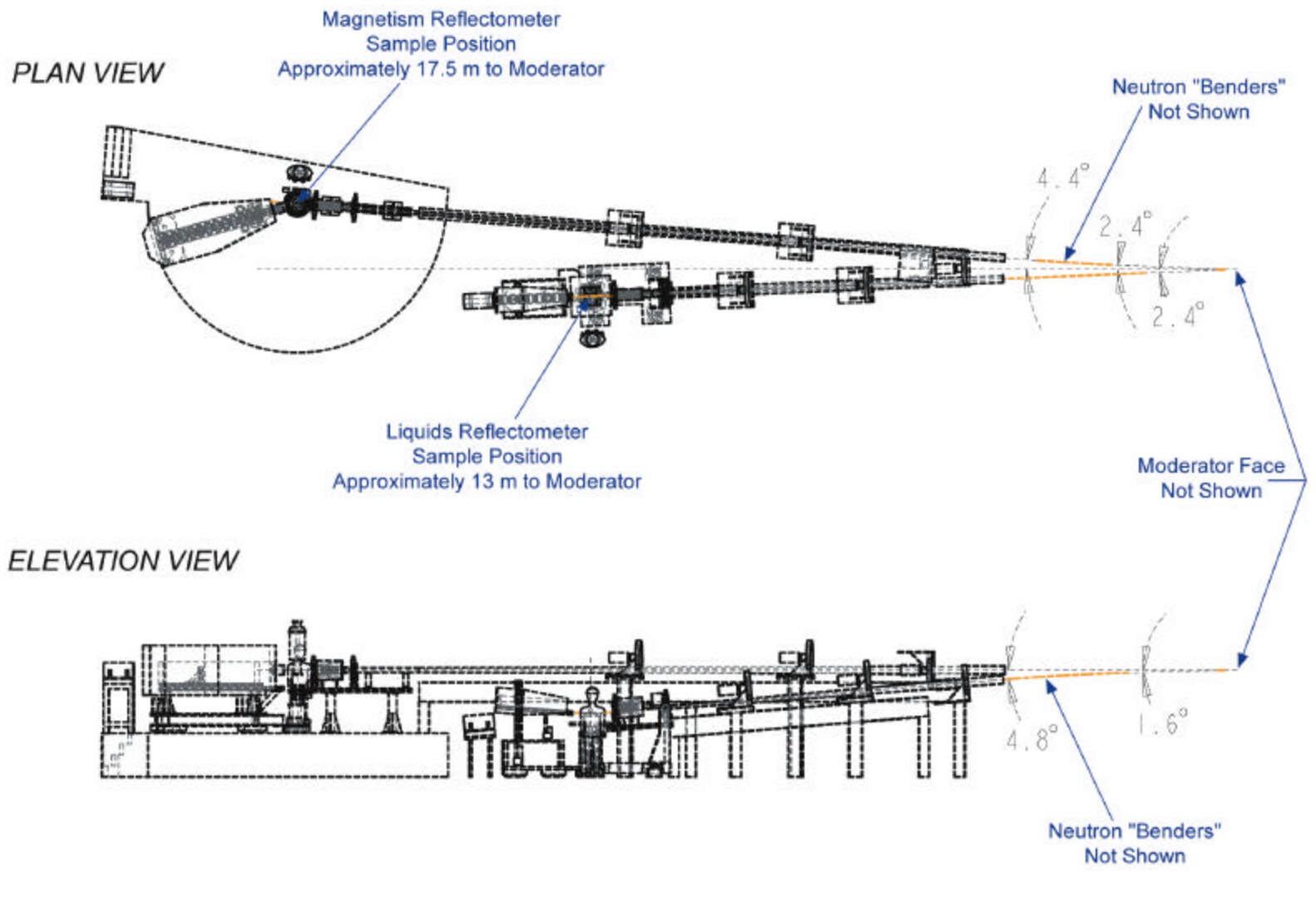
July 17, 2000

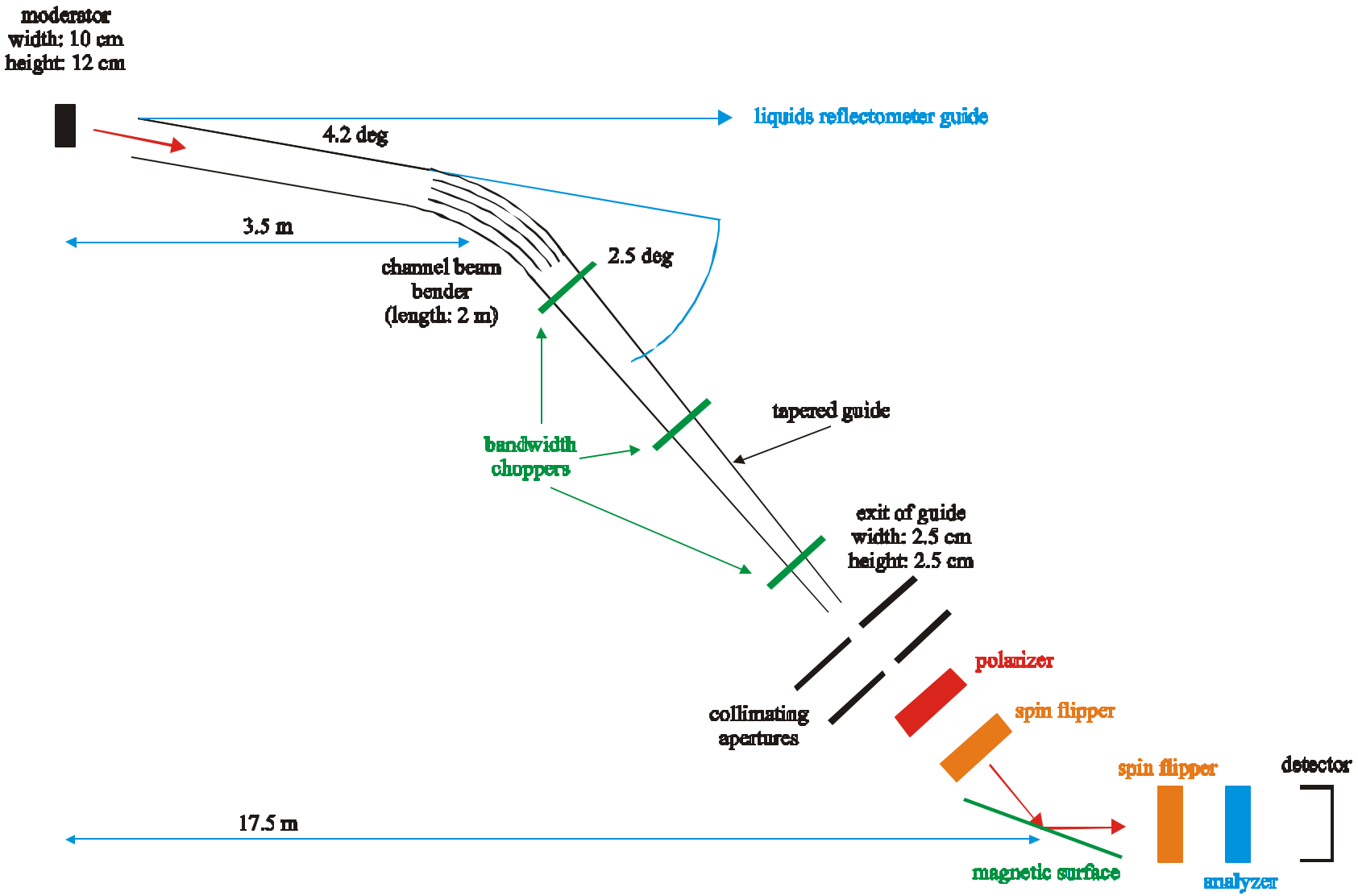


The SNS reflectometry beamlines: The upper beamline is the Magnetism Reflectometer, the lower the Liquids Reflectometer.

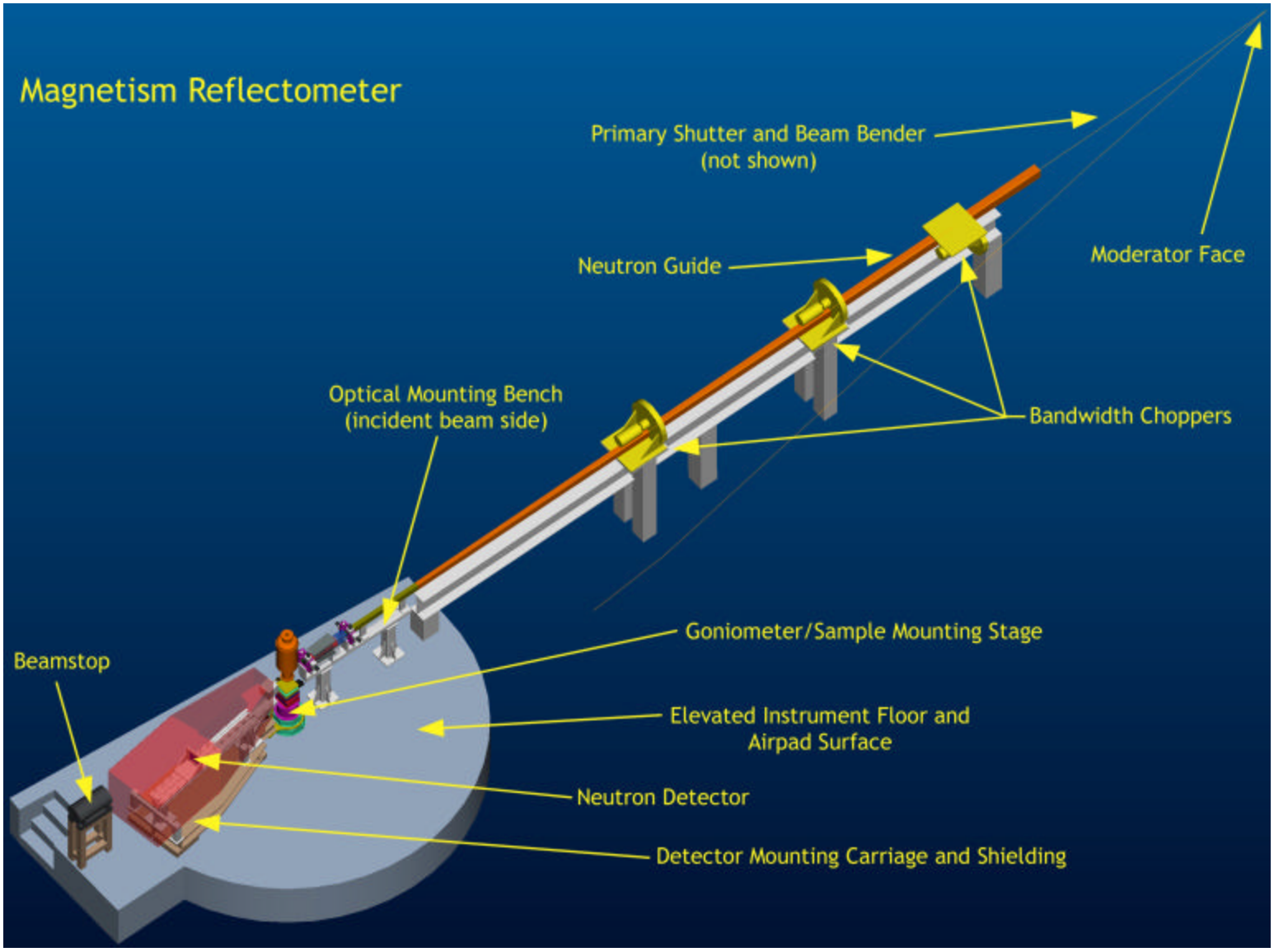
Magnetism and Liquids Reflectometers

(Shown without Target Monolith and Beamline Shielding)

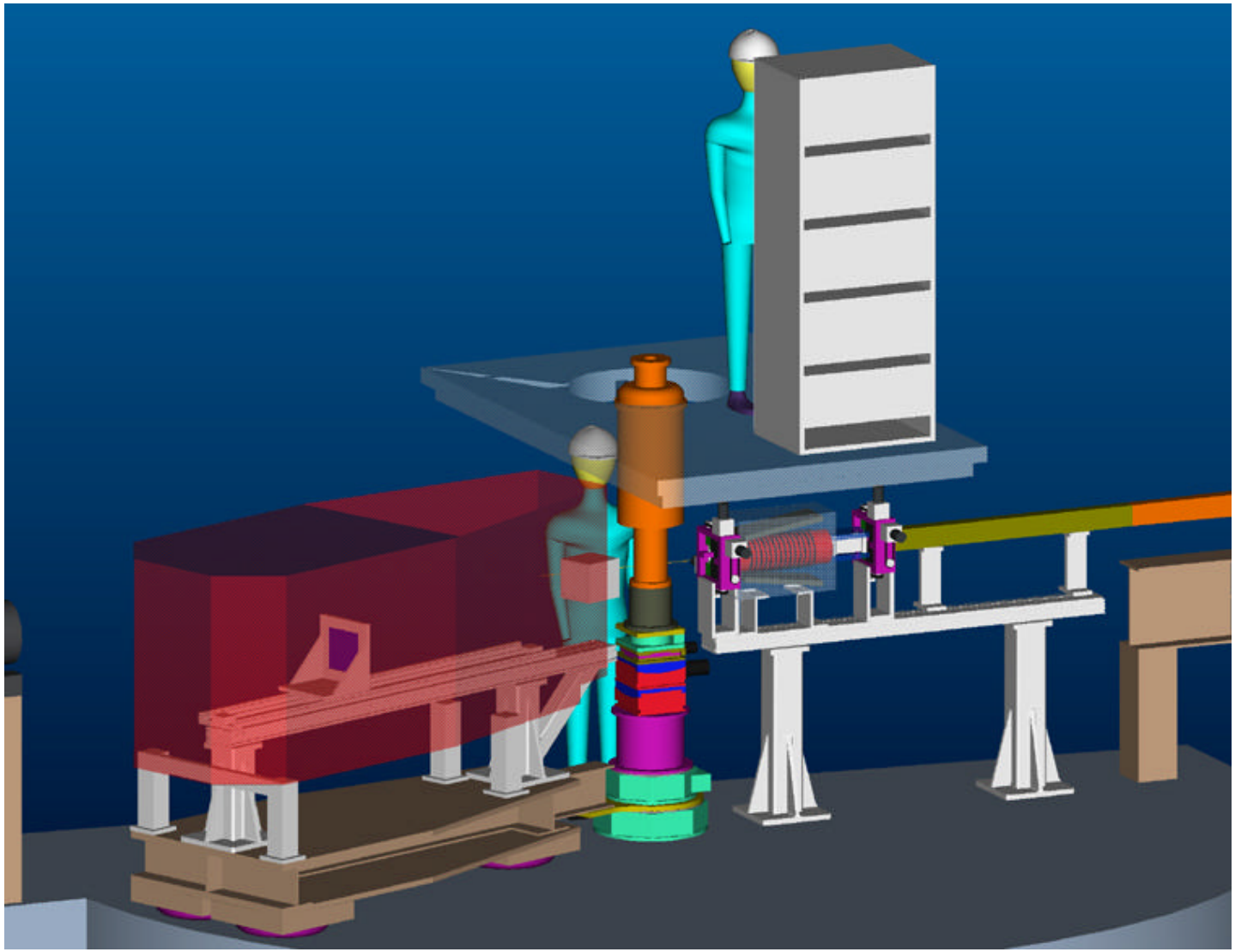




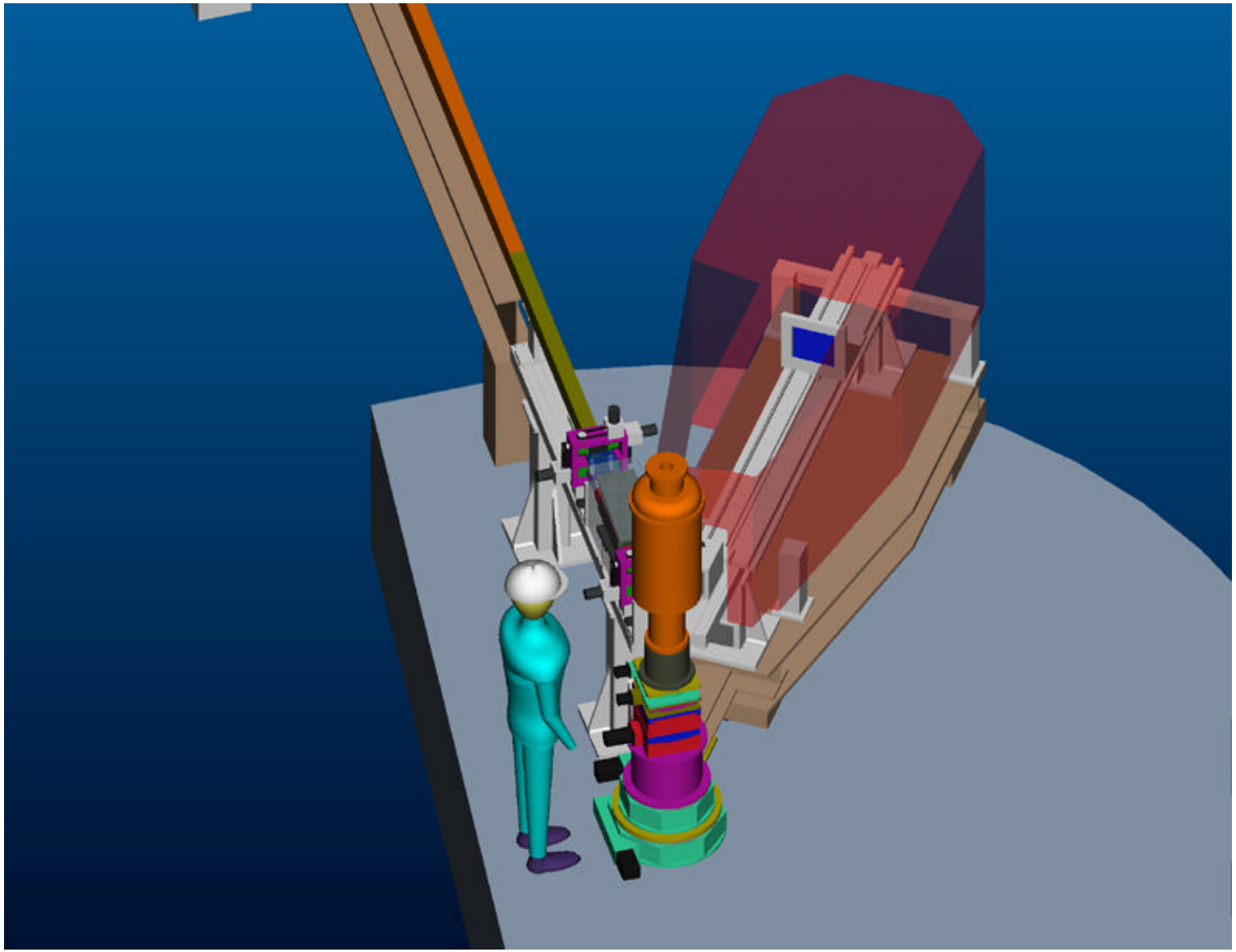
Neutron beam optics of the magnetism reflectometer (top view, schematic).
The microchannel deflector (beam bender) bends the beam out of the direct-line-of-sight.



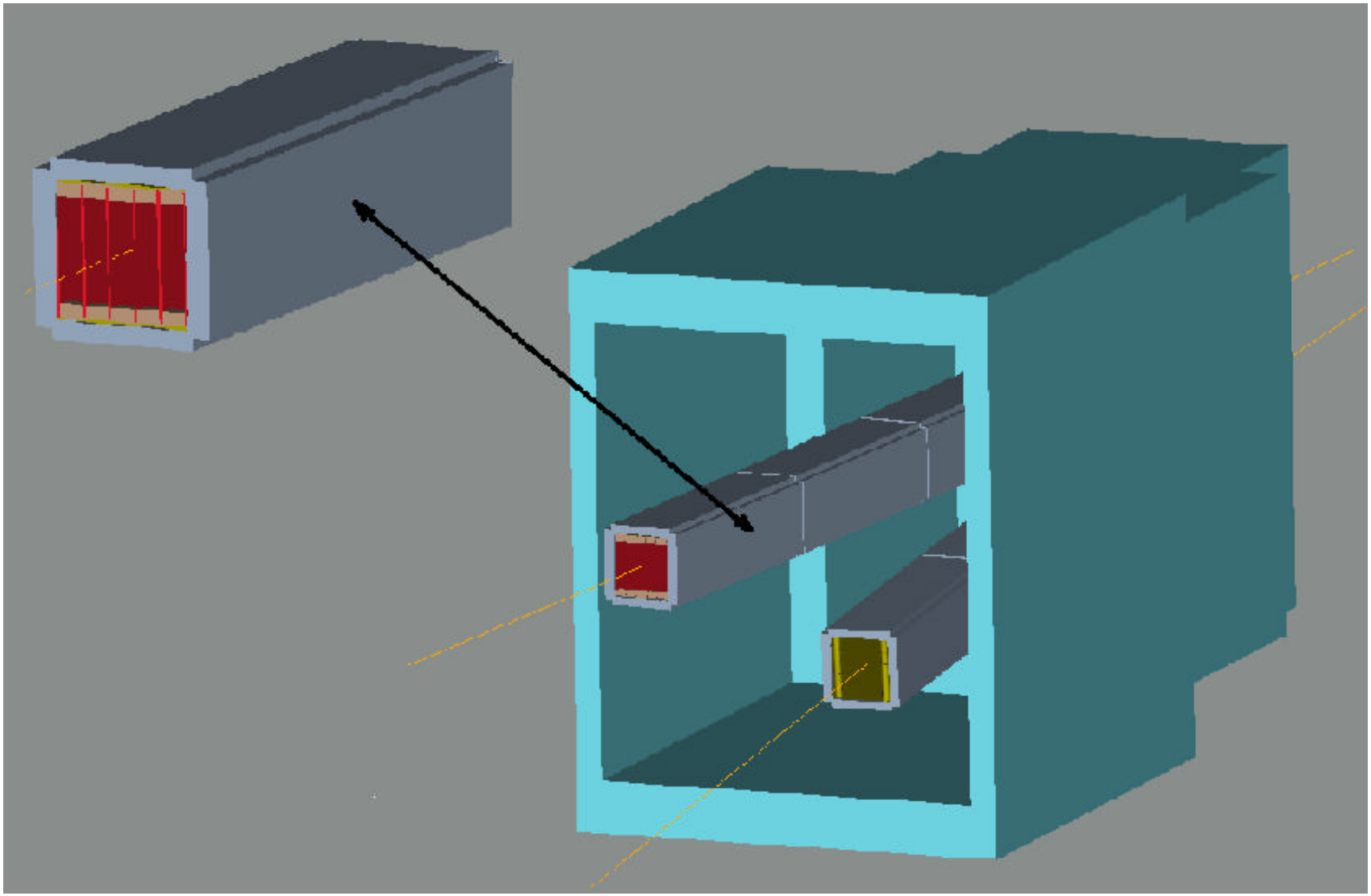
Components of the Magnetism Reflectometer.



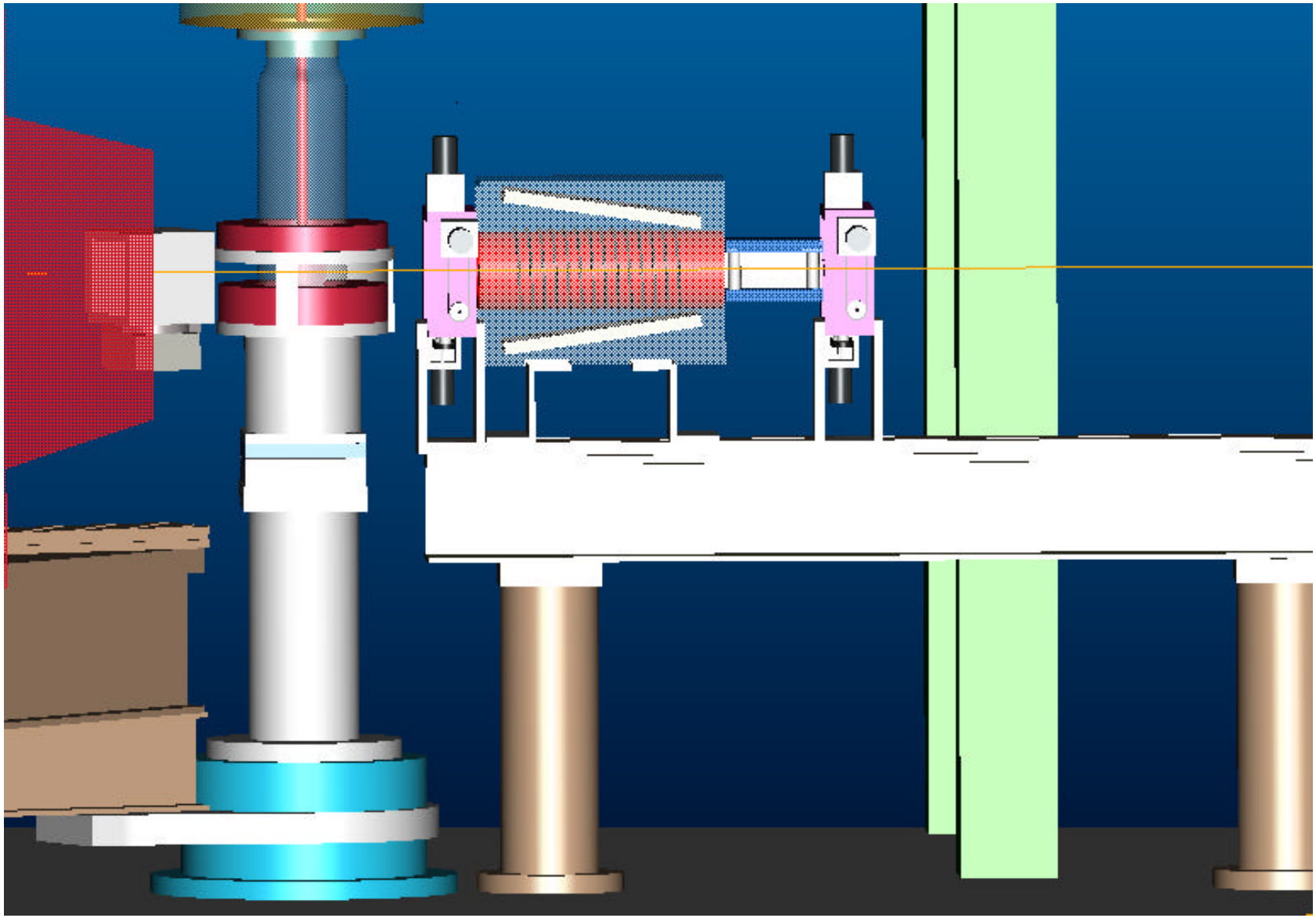
Detailed view of the beamline close to the sample position. If a cryostat is in use, sample loading will be done from a platform atop the sample area. Otherwise sample access is possible from the instrument floor



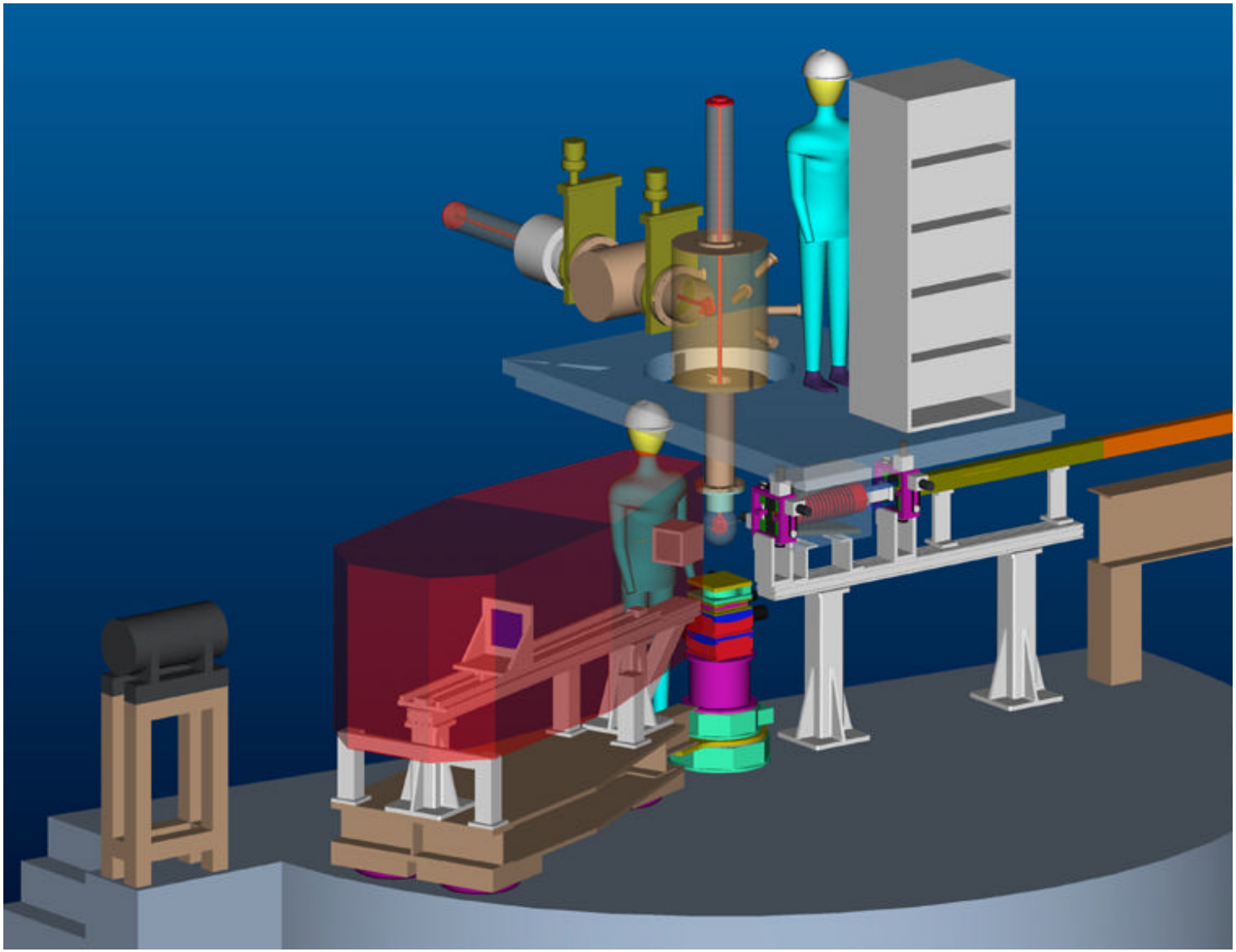
Instrument in high-angle diffraction mode.



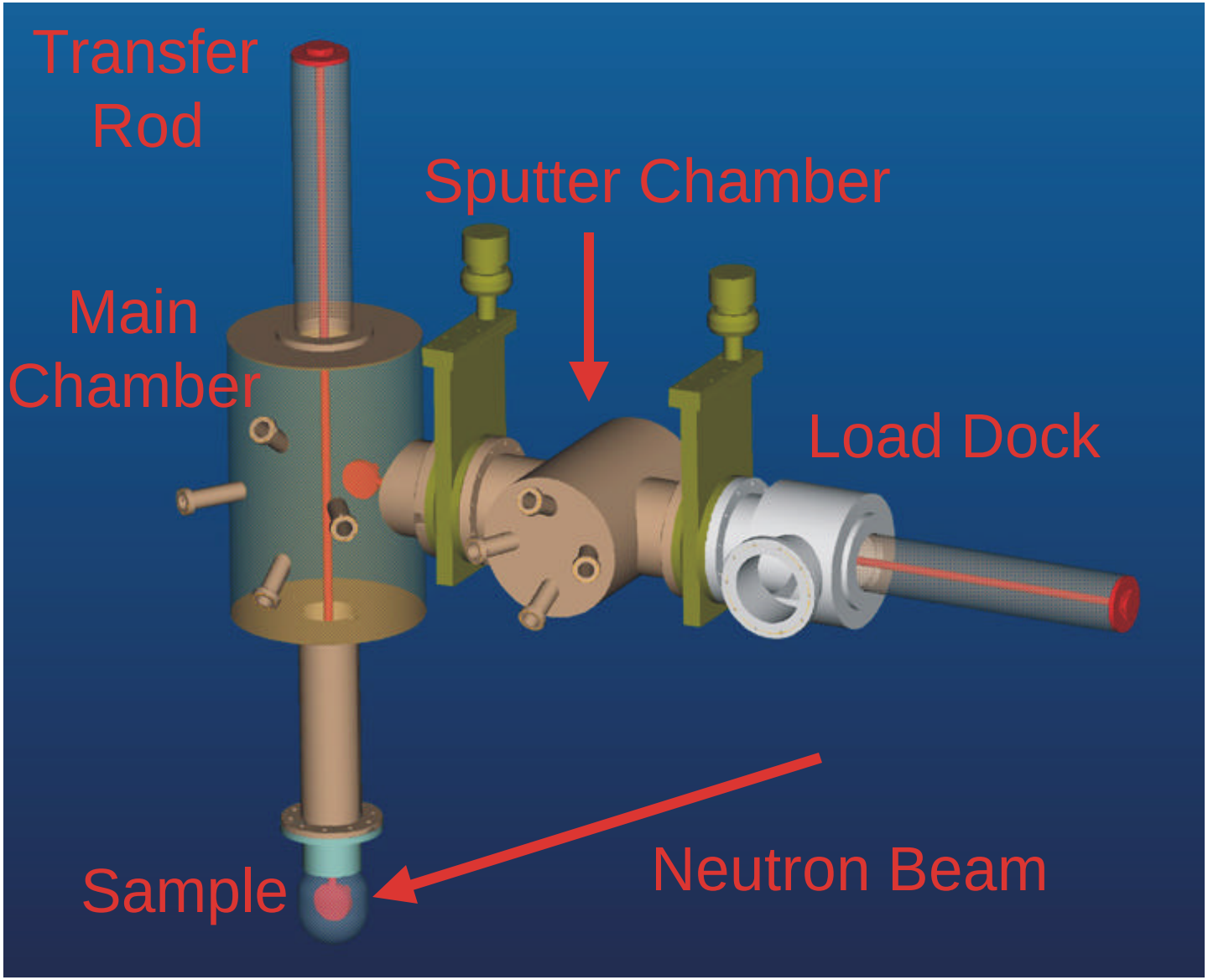
Schematic representation of the channel beam benders integrated into the main beamline shutter. One of the four straight bender sections is depicted enlarged.



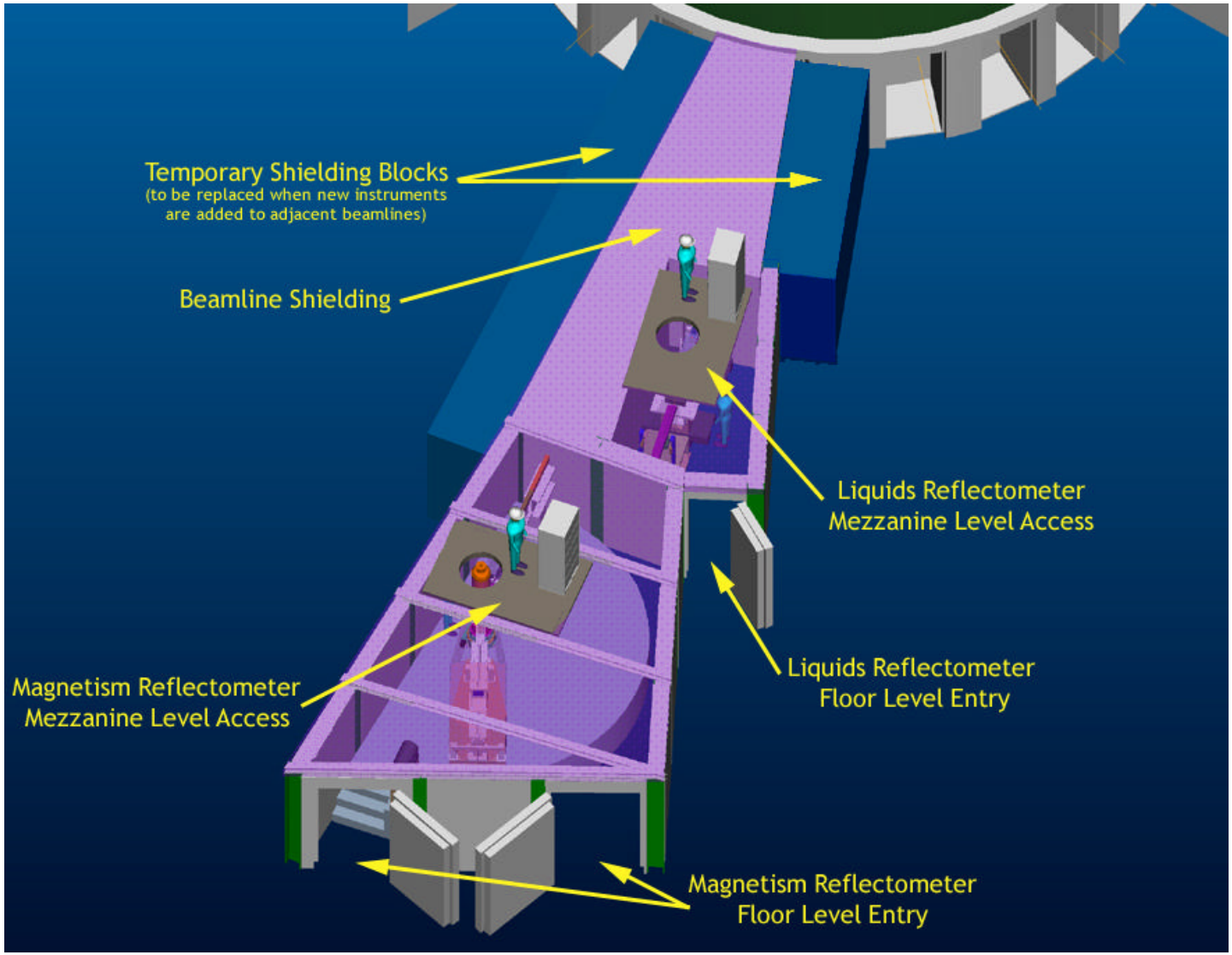
Incident beam polarizing optics (spin flipper and polarizer mounted between aperture systems).



UHV system for in-situ polarized reflectometry experiments on ultrathin magnetic films (for clarity reasons the sample magnet is suppressed).



Schematic layout of the UHV system.



Preliminary arrangement of shielding and instrument enclosures at the reflectometry beamlines. The shielding blocks that constitute the roof are suppressed for clarity reasons.