



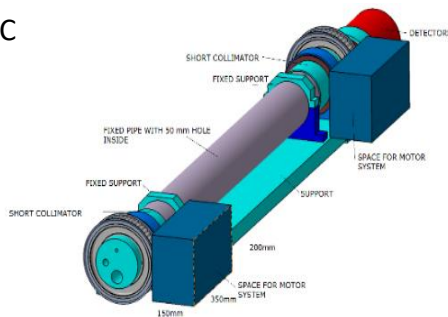
IFJ & Thermonuclear Fusion

2014-2018:

Radial Neutron Camera (RNC)

- Thermo-hydraulic: cooling system design and optimization
- Electromagnetic: dynamic loads and electromagnetic shielding
- Design of RNC components (rotating collimators and rotating detectors)
- Design of system for diamond detectors temperature fatigue tests
- CAD support

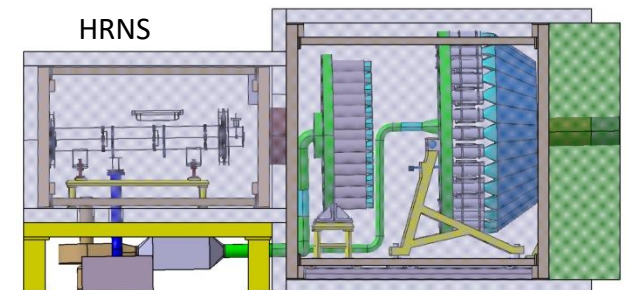
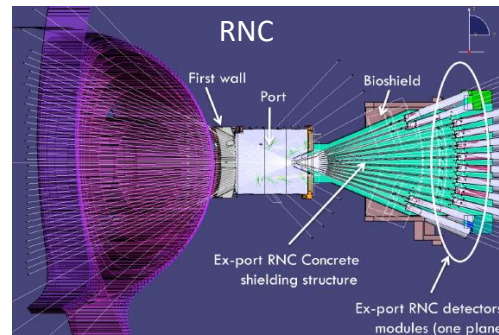
RNC



2014-2017:

High Resolution Neutron Spectrometer (HRNS)

- Engineering activities coordination
- Thermo-hydraulic: cooling system design and optimization
- Electromagnetic: dynamic loads and electromagnetic shielding
- CAD support



Final design of testing system (26.04.2017)

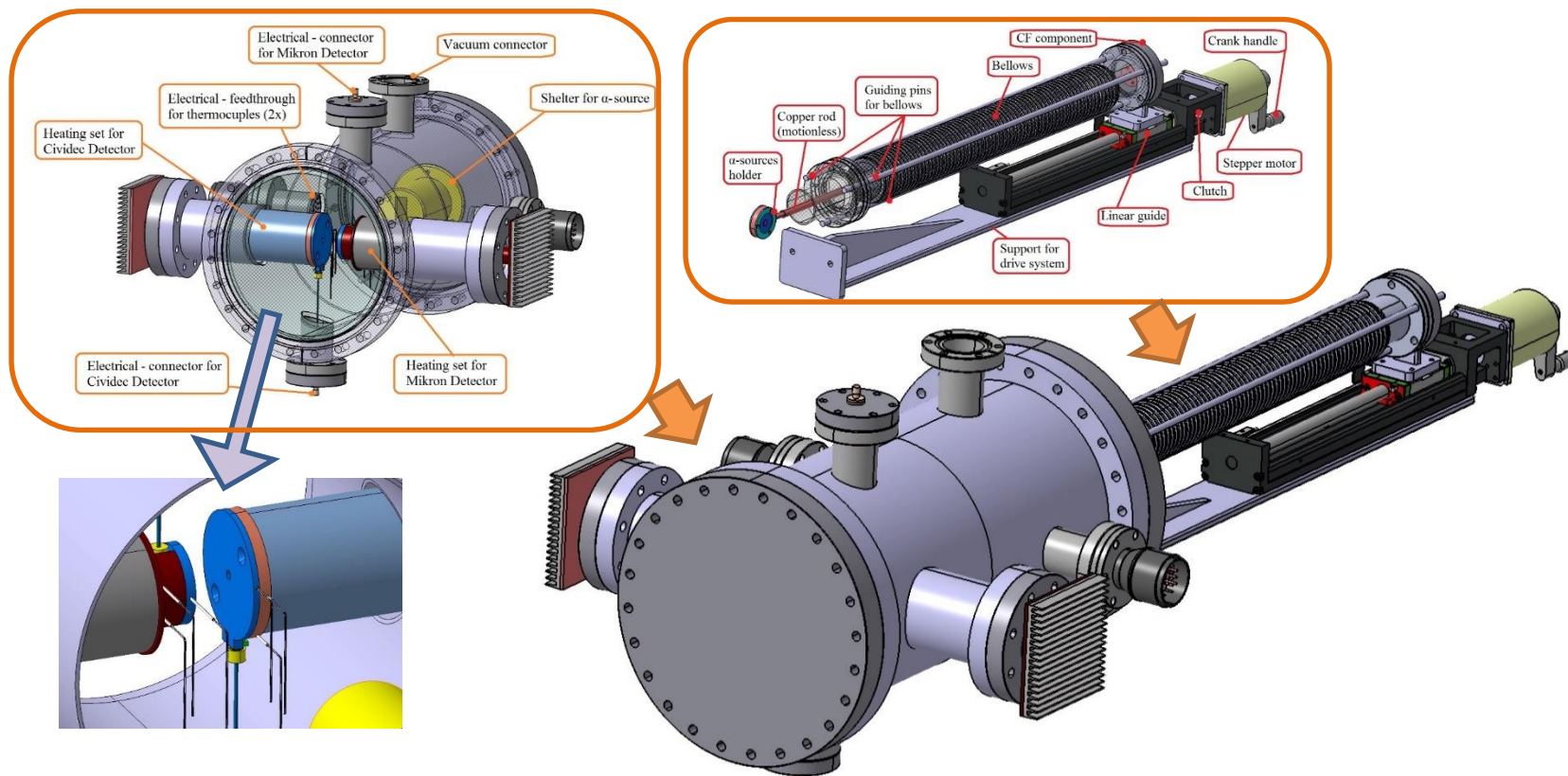
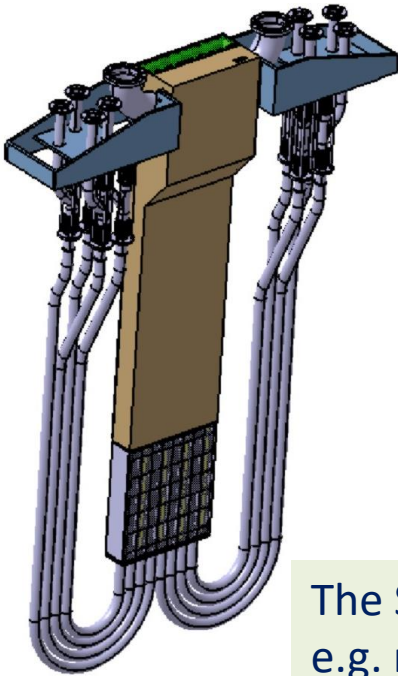


Fig. 1: Isometric views of main components in testing system

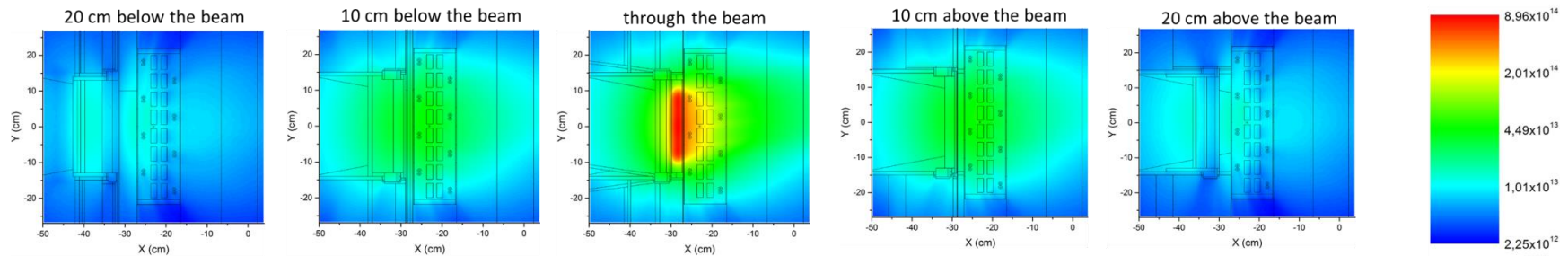


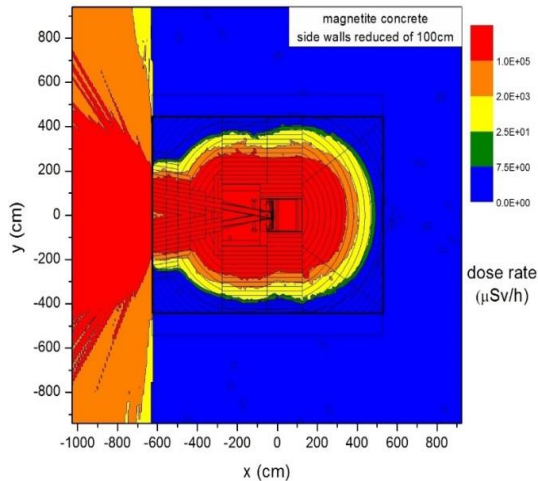
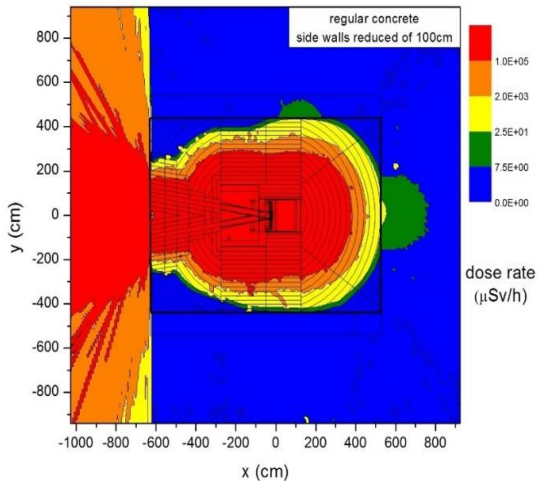
The STUMM module will be used to:

- Characterize the neutron flux at the irradiation position (measure its position, intensity, energy spectrum)
- Verify and validate neutronics modelling
- Measure the gamma radiation field
- Określenie pola promieniowania gamma

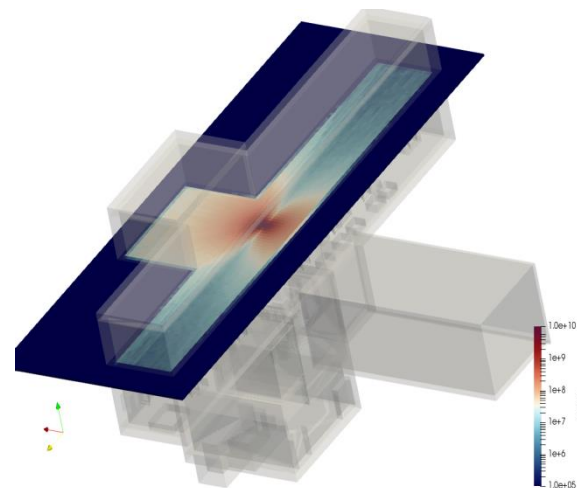
It will be used during beam commissioning and each time after a change in the configuration is made

The STUMM module will contain an array of neutron and gamma sensors, e.g. micro-fission chambers, a rabbit system, gamma thermometers, SPND detectors. **This module is designed in Poland by IFJ PAN, NCBJ, IPPLM**

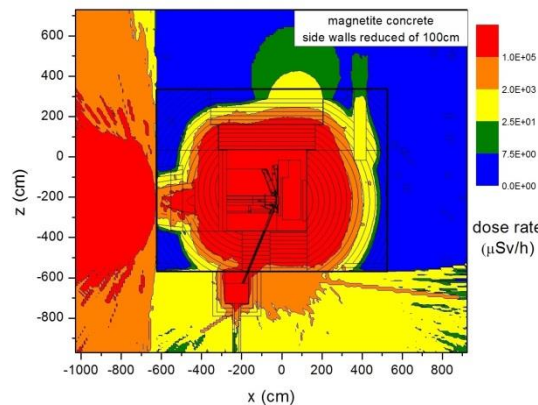
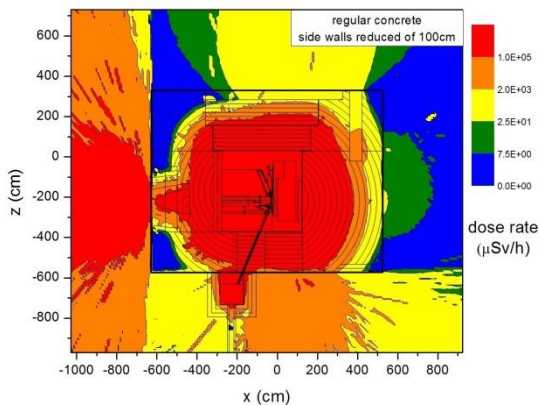




**Dawki
„beam-on target”
/ aktywacja**



W IFJ PAN grupa prof. K. Drozdowicza, G. Tracz, D. Dworak, obliczenia przy użyciu oprogramowania MCNP na komputerach clustra McRadiat (NZ61) oraz w Cyfronecie na clustrze Prometheus



Rozkład dawek promieniowania 5h po zakończeniu naświetlania w Access Cell – pomieszczeniu ponad tarczą, w którym odbywać się będzie obsługa techniczna elementów tarczy i modułu naświetlania
G. Stankunas, LEI