

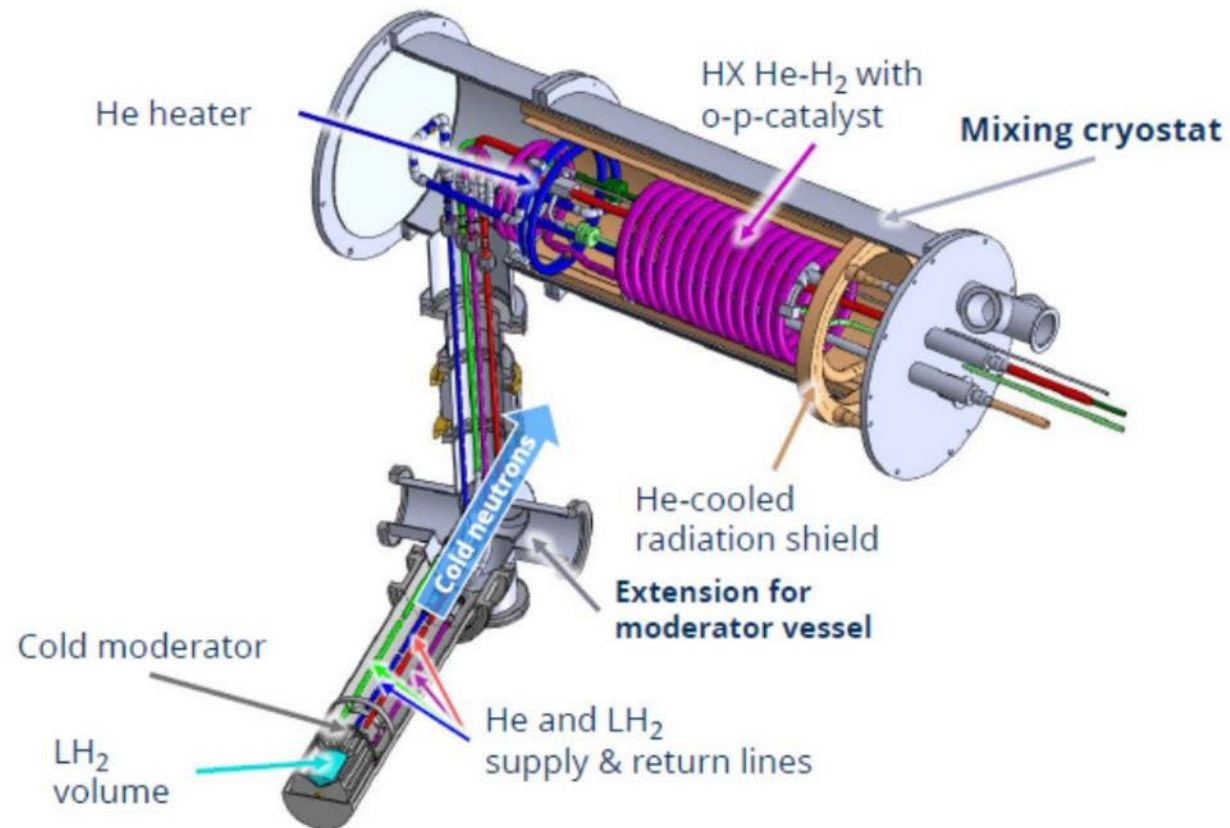
# The Jülich High Brilliance Neutron Source Project

## Current status and developments

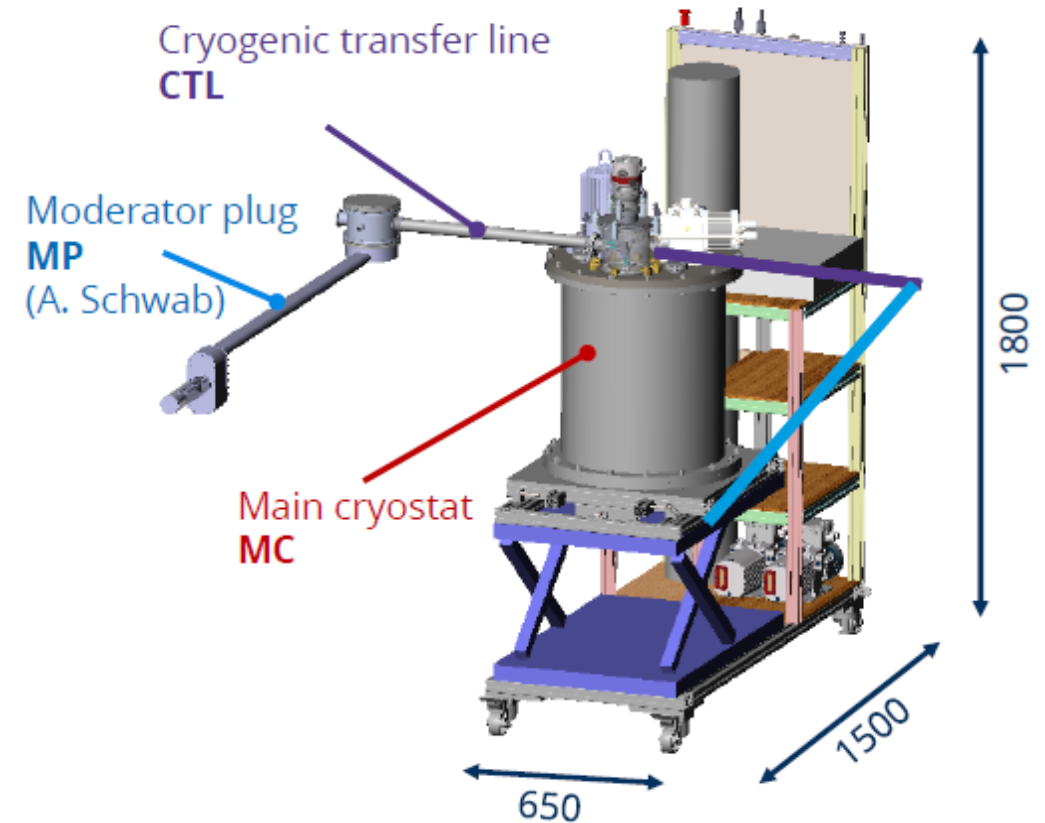
Thomas Gutberlet, JCNS

# HBS Moderator development

## Design and Construction



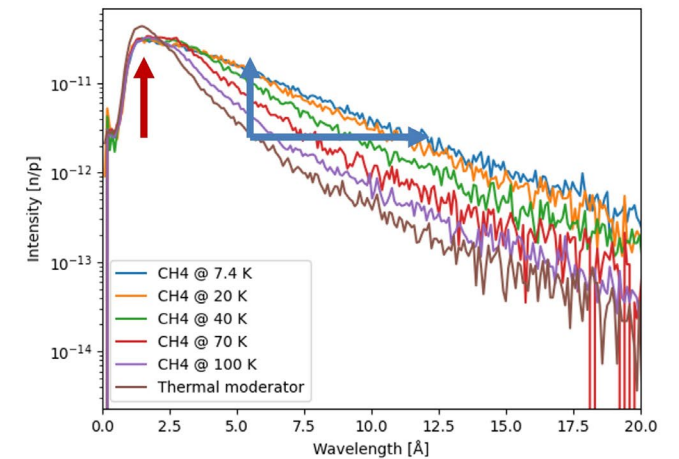
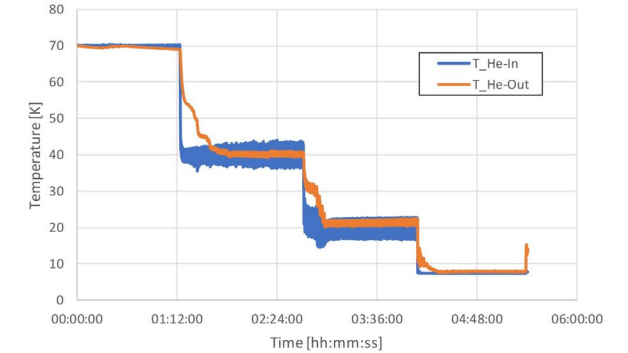
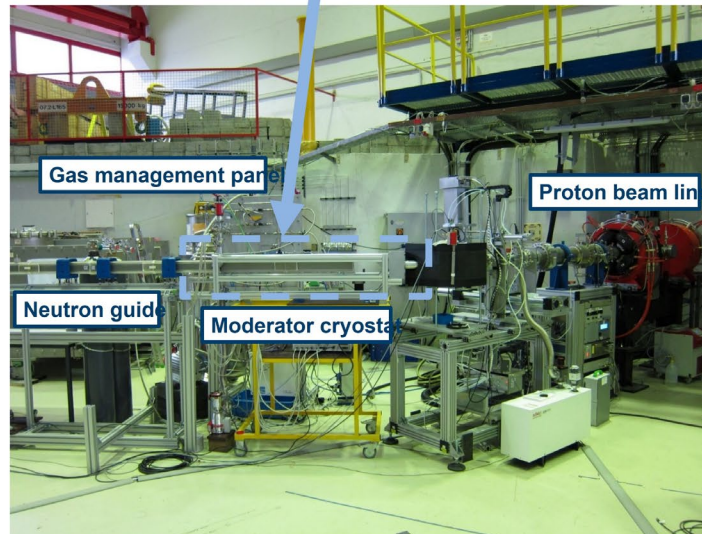
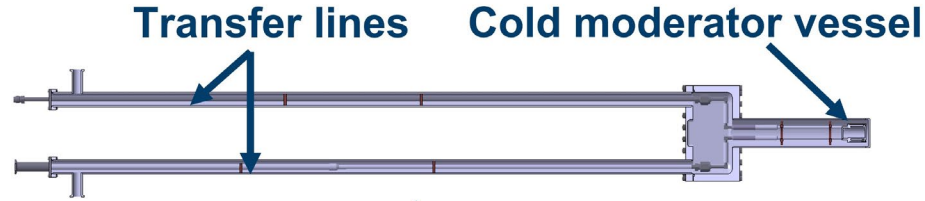
## Compact & mobile design



# HBS Moderator development

## Solid Methane system

- Liquefaction and freezing of methane ( $\text{CH}_4$ ) by LHe cooling
- Measurements with **liquid  $\text{CH}_4$**  @ 100 K and **solid  $\text{CH}_4$**  @ 70 K, 40 K, 20 K and 7.4 K
- Clear shift to longer wavelengths and higher intensities for  $T_{\text{Mod}} \downarrow$
- Thermal peak still visible for lower temperatures (bispectral) → moderator too small





# HBS Target-Moderator-Reflector Unit

## Experimental Platform at Big Karl @ COSY

ZEА-1 | ENGINEERING AND TECHNOLOGY  
Technology for Excellent Science

