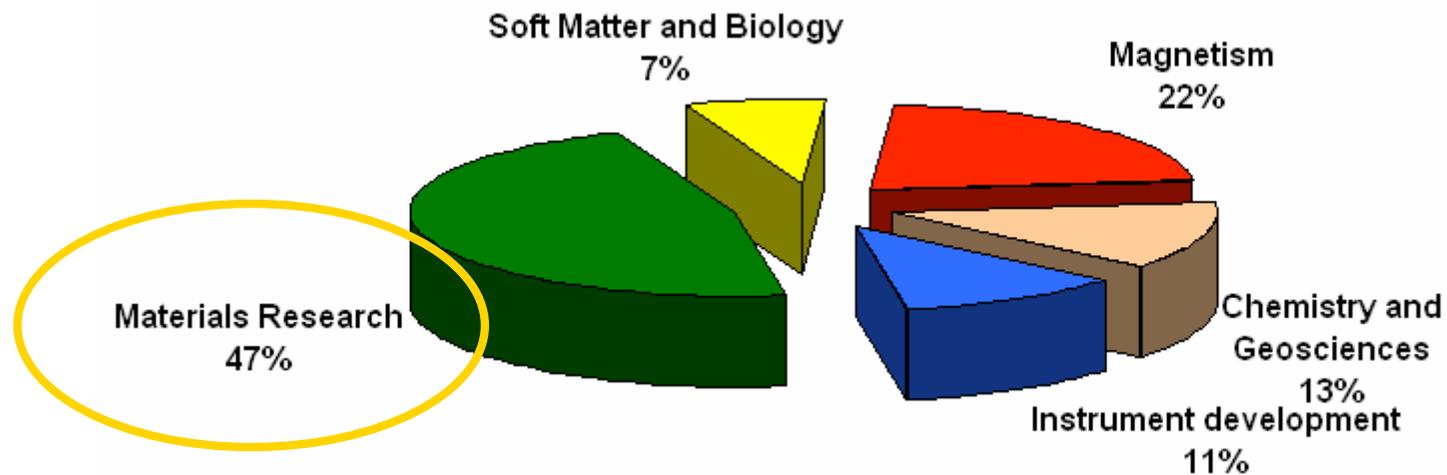




GeNF – GKSS Forschungszentrum

ACCESS Activity presentation by Regine Willumeit
General Assembly in Villigen, CH
March 31, 2009

GeNF Geesthacht – 2008



User support is one important part of the GeNF mission



Your place in Europe

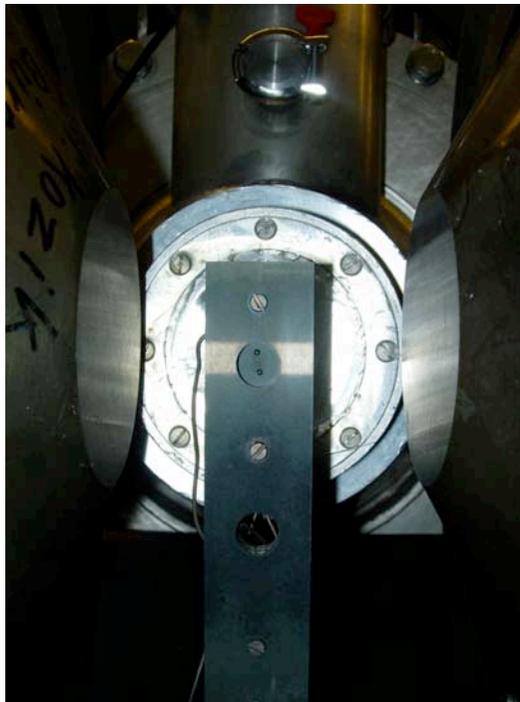
- Statistics on user frequentation / outcome in terms of publications

	days	User	Prop. #	papers #	others #	women %	new %
2004	195	16	14	11	15	43	50
2005	189	29	17	7	6	16	67
2006	170	30	19	11	6	39	38
2007/8	155	26	15	21	5	40	52
Total	709	101	65	50	32	35	52

Highlights GeNF Geesthacht

Precipitates in Steel

Model alloy of composition Fe-25 m% Co-15 m% Mo

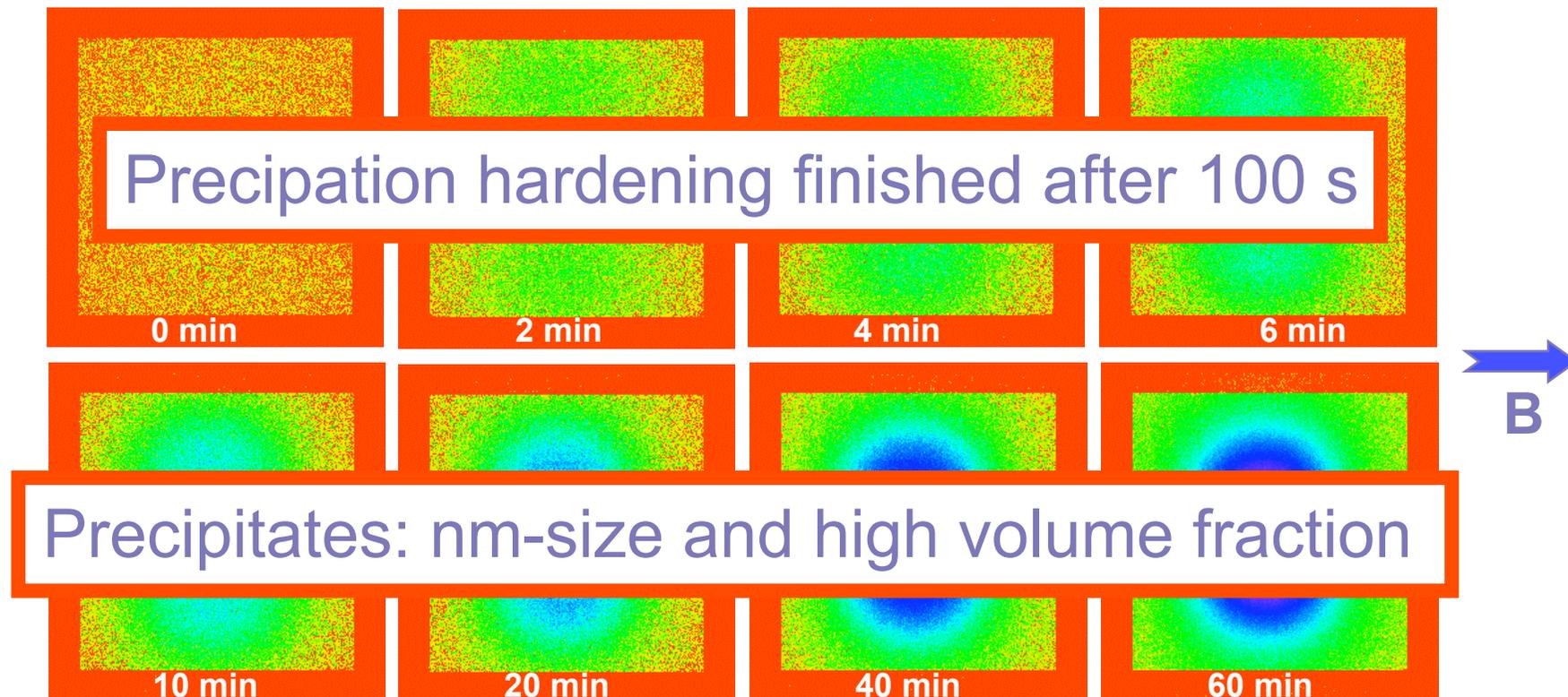


- ➔ **high-temperature applications**
- ➔ Precipitation hardening by formation of intermetallic μ -phase $(\text{Fe,Co})_7\text{Mo}_6$
- ➔ New oven: **50s** -> **500°C**
in magnetic field (**2 Tesla**)
- ➔ Time resolution: **30 s**

E. Eidenberger et al. , BHM 153 (2008) 247-252

Highlights GeNF Geesthacht

Precipitates in Steel



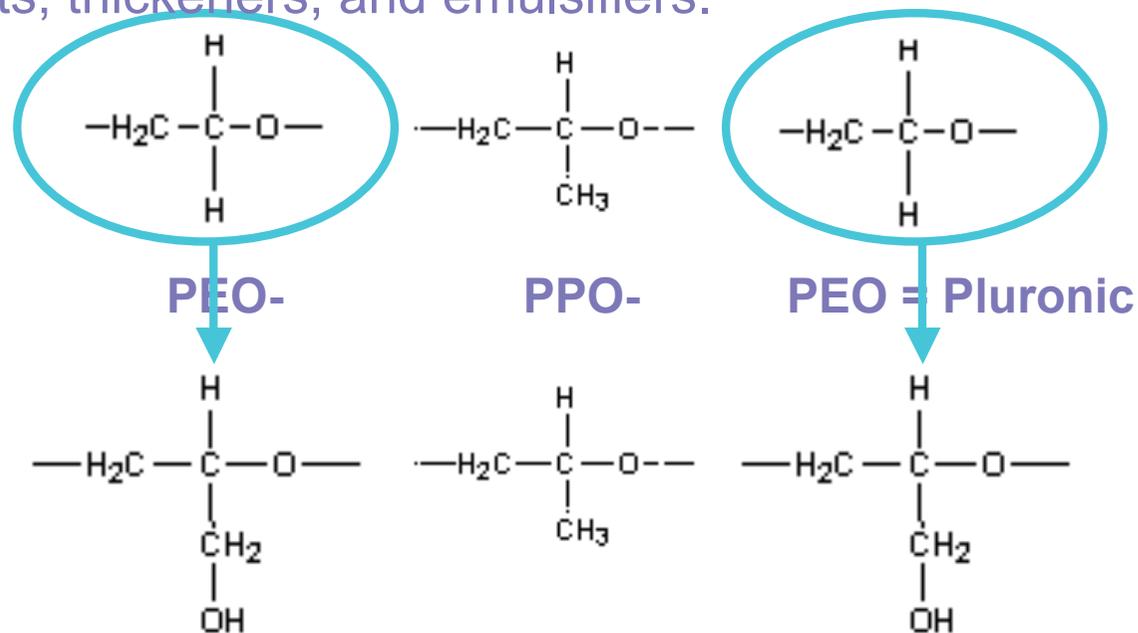
E. Eidenberger et al. , BHM 153 (2008) 247-252

Highlights GeNF Geesthacht

Structural Polymorphism of Triblock Polymer

Polyglycidol-Based Analogues to *Pluronic* Copolymers

Pluronic Copolymers: function as antifoaming agents, wetting agents, dispersants, thickeners, and emulsifiers.



40->80 polyglycidol (PG)-

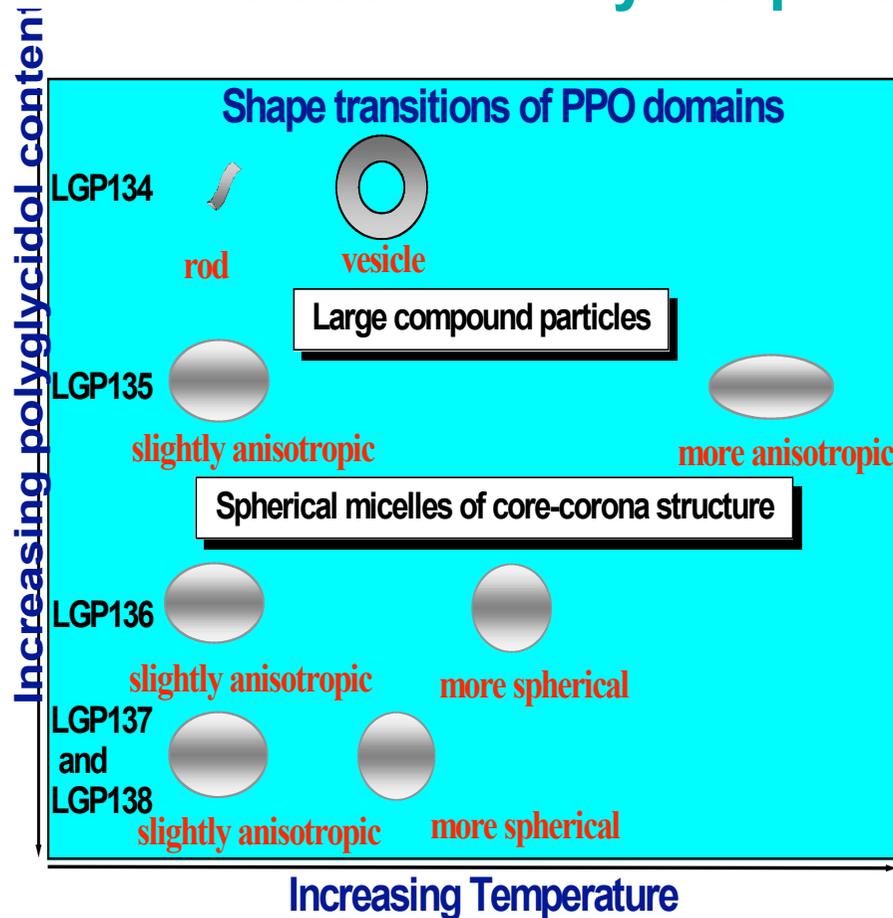
PPO- 68

PG 40->80

S. Rangelov et al., *Macromolecules* 41 (2008) 8885-8894

Highlights GeNF Geesthacht

Structural Polymorphism of Triblock Polymer



→ Perform different structures by variation of PG content

→ **NEW:** different hydrophobicity with temperature

→ New behaviour of aggregation number: has maximum!

→ better control of size of aggregates

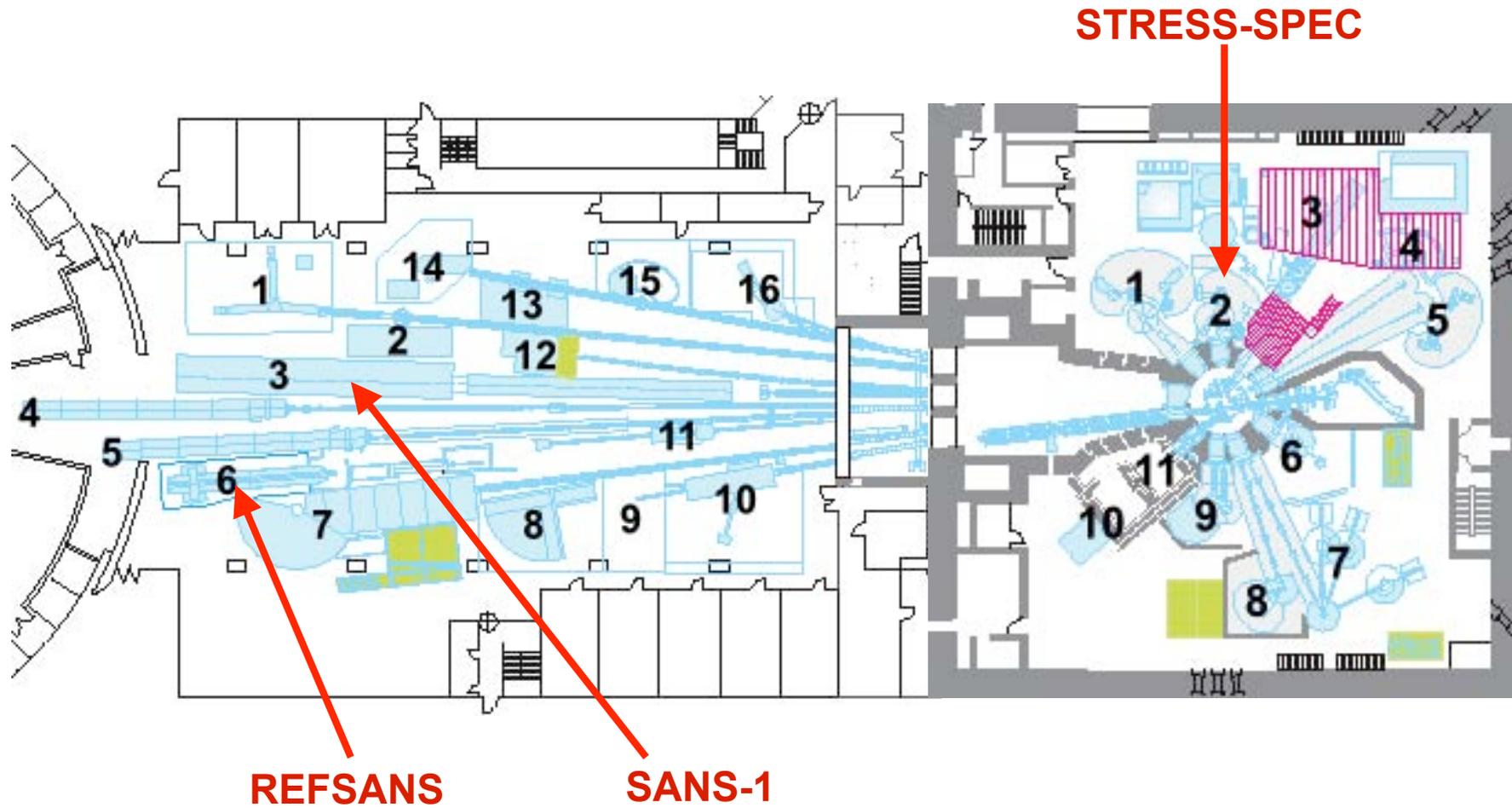
S. Rangelov et al., Macromolecules 41 (2008) 8885-8894



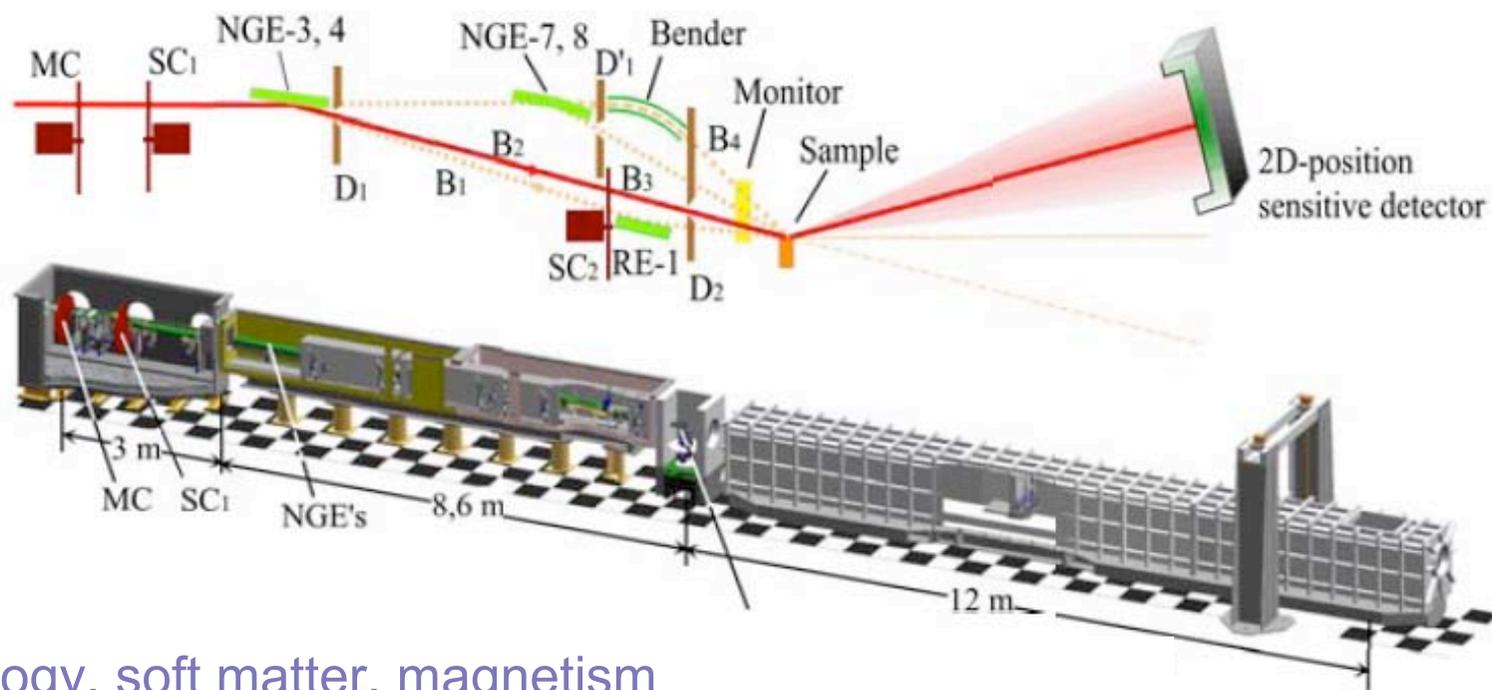
Strategy for the future

Shut down of FRG-1 in middle of 2010

GKSS@ FRM-II



REFSANS



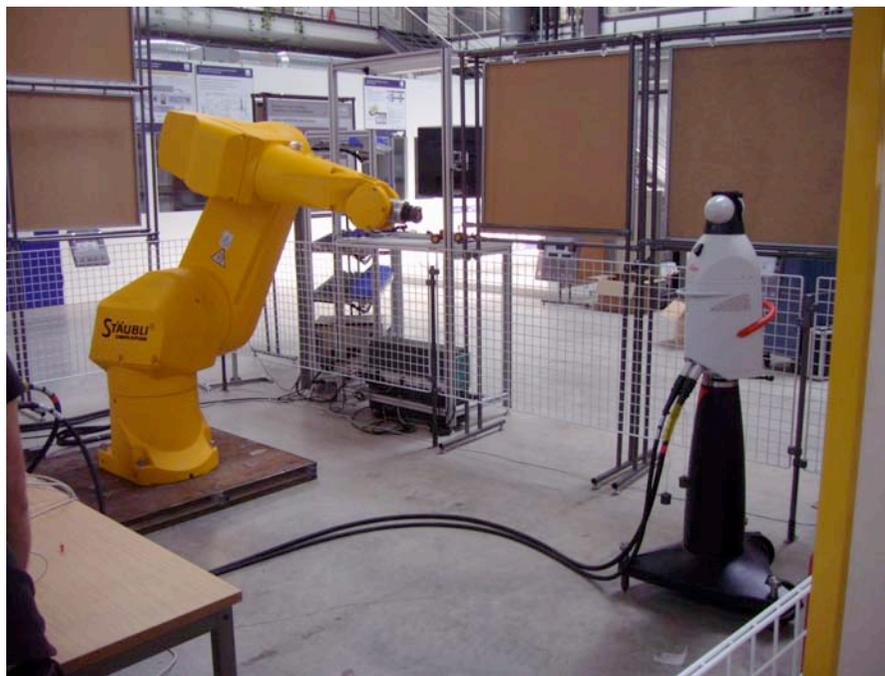
Biology, soft matter, magnetism
 Reflectivity at liquid-air interface, GISANS



nmi3



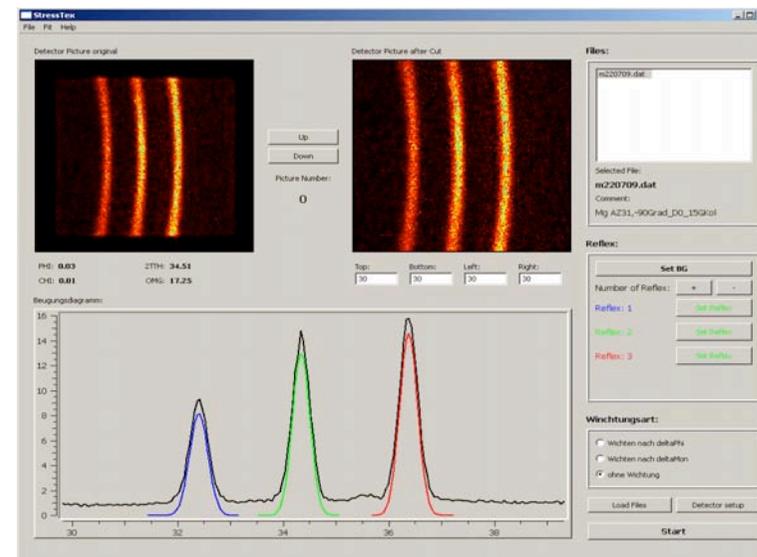
New sample manipulation by
robot and laser tracker



Stress-Spec

“StressTex-Calculator”:

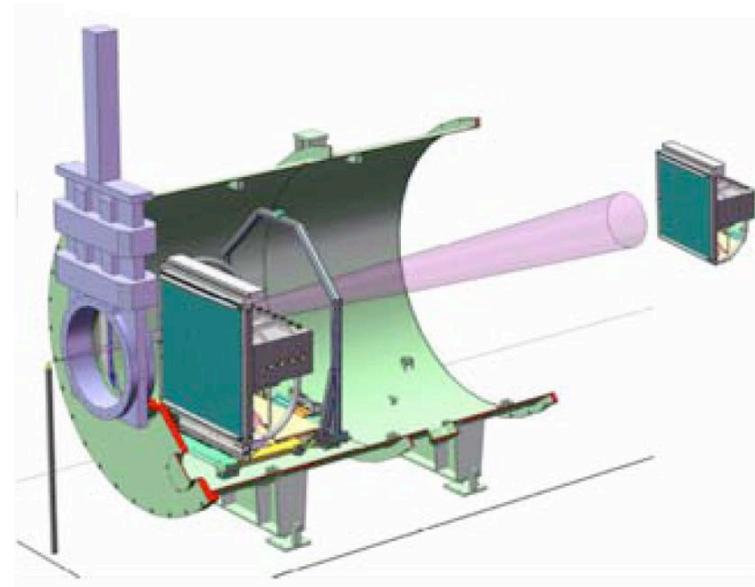
fitting and correcting for three reflexes
in a Mg specimen.





High time and spatial resolution for in situ studies
Polarized neutrons with polarization analysis
Time-of-flight SANS measurements

SANS-1



Strategy for the future

German Engineering Materials Science Center (GEMS) for Research with Photons and Neutrons

GEMS-P

Photons at DESY

GEMS-N

Neutrons at FRM II



- Stress-Spec
- SANS-1
- REFSANS
- NN





Strategy for the future

- Is there a possibility to reinforce the strength of your facility through a common strategy?

YES!

Optimised user support in the areas of sample environment, data analysis, sample preparation and characterisation for engineering materials.

- Would a topical focus make sense ?

YES: we already focus on Engineering Material Science!

*Unique centre for engineering materials research with photons and neutrons
Expertise of the Institute of Materials Research and worldwide collaborations*

- Your point of view regarding integration with other fields (eg photons)

YES: we already do it!

Complementary use of both probes (via integrated beamtime proposals)