

# SANS instruduction At CARR

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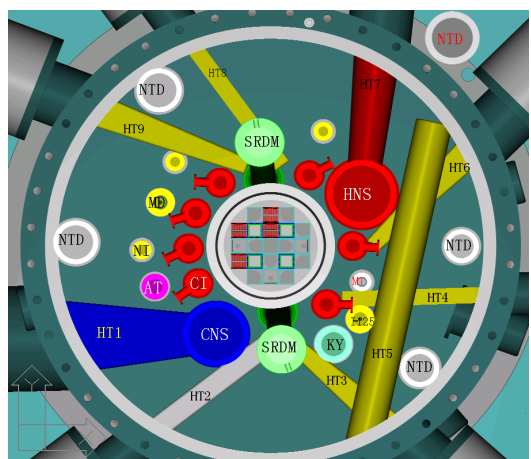
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## Key Parameters

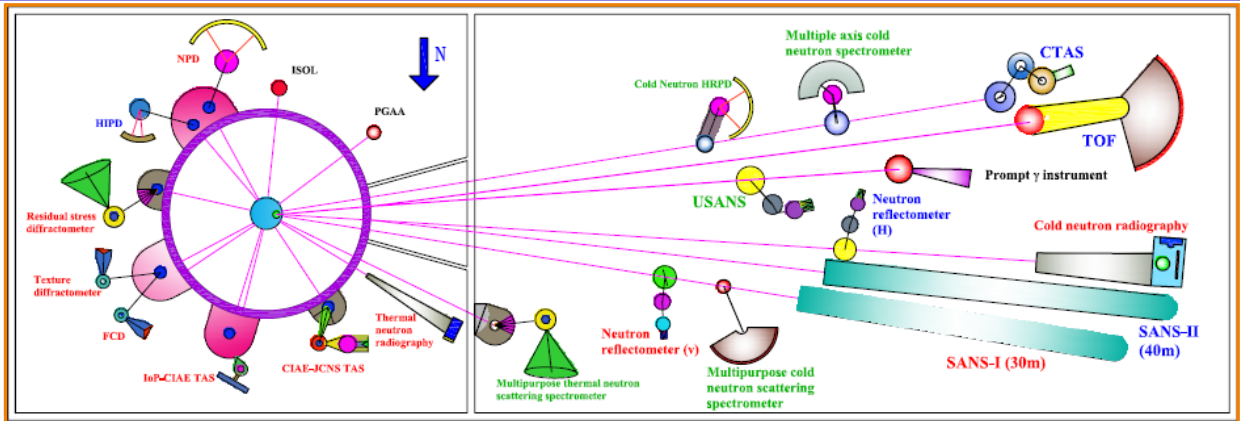
- 60 MW
- Max undisturbed thermal neutron flux ( $n \cdot \text{cm}^{-2} \cdot \text{s}^{-1}$ )
  - $8 \times 10^{14}$  (at heavy-water reflector)
- 19.75 wt%  $\text{U}^{235}$  enrichment

## Multipurpose:

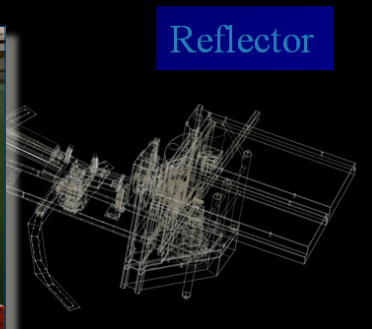
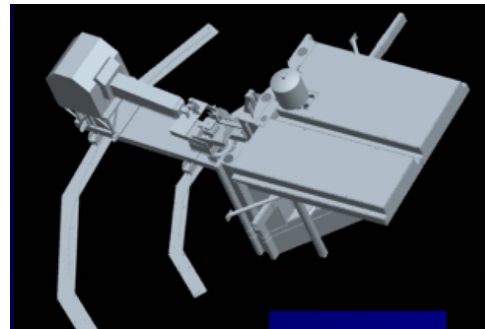
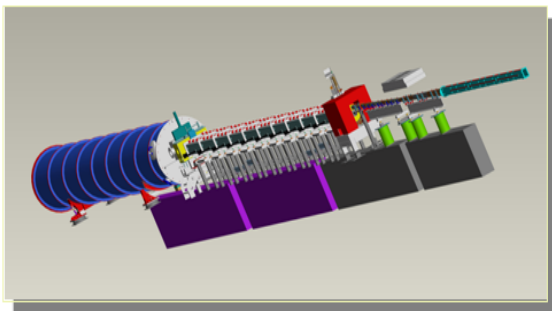
- Neutron Scattering
- Neutron activation analysis
- Neutron transmutation doping Silicon
- Radio-isotope production
- Irradiation test of materials
- Nuclear data



Parameters	Power	Flux $n/(\text{cm}^2 \cdot \text{s})$
ILL	57	$1.2 \times 10^{15}$
CARR	60	$8 \times 10^{14}$
FRM-II	20	$8 \times 10^{14}$



## Drawing of two machines



Reflector

**Source:** Curve neutron guide (CNGD) 50mm×50mm

**Wavelength range:** 4.0~20.0Å

**Wavelength resolution:**  $\Delta\lambda/\lambda$  (FWHM) =10%~22%

**Source to Sample distance:** 4~16m, 4m、10m、16m

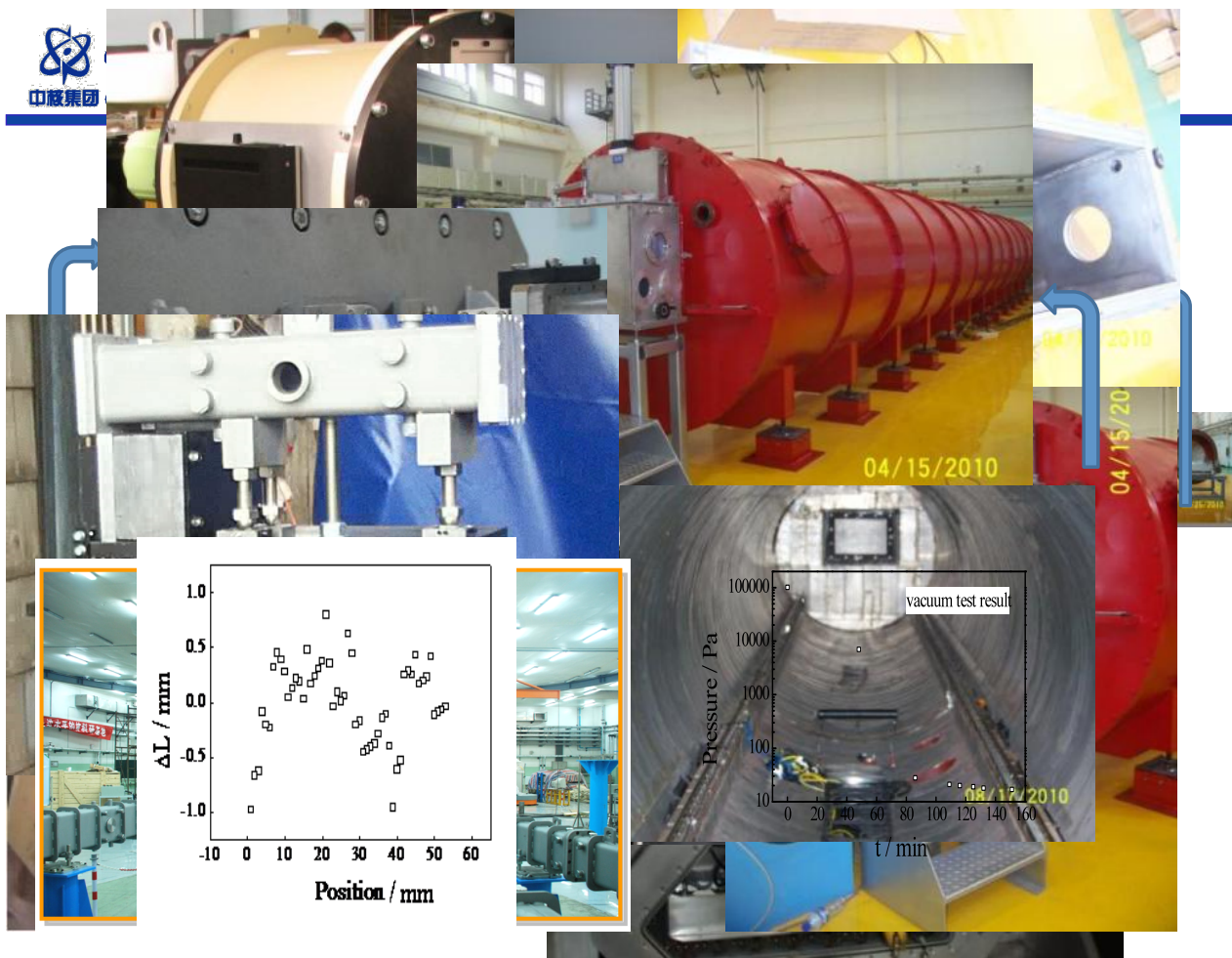
**Sample to Detector distance:** 1.0 to 15m

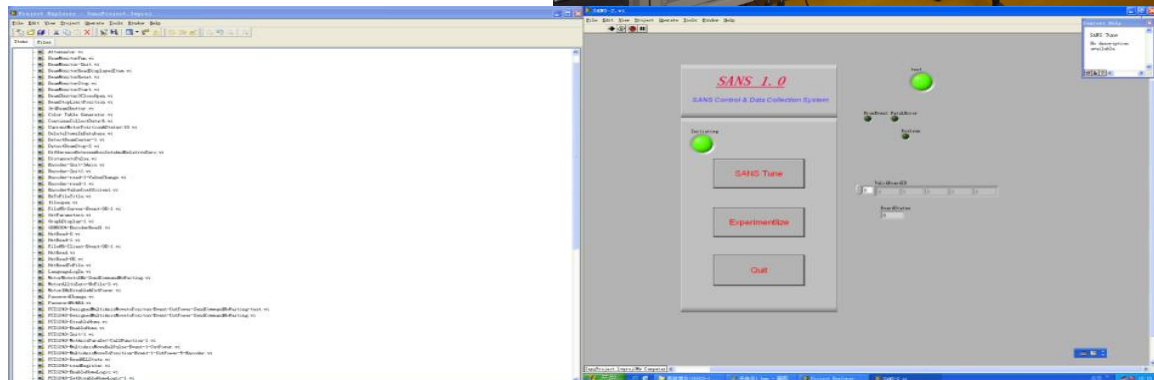
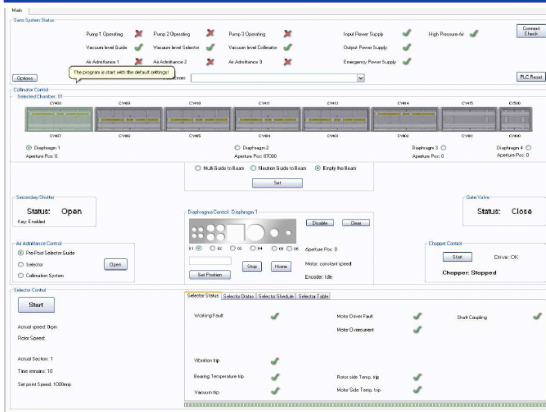
**collimation:** pinhole, multi-pinhole and focusing lens

**Sample size:** Φ5mm~Φ25mm

**Q-range:** 0.0008~0.5Å<sup>-1</sup>

**Detector:** 645mm×645mm He<sup>3</sup> PSD, resolution 5mm×5mm







Dr. Guangcui Yuan



Dr. He Cheng



Dr. Jiang Du



Dr. Hongxian Zhang



Dr. Li Zhang



Dr. Tianfu Li



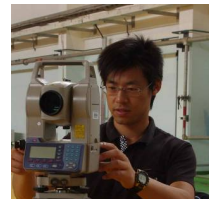
Dr. Linfeng He



Mr. Liqi Wu



Dr. Xuehui Wu



Dr. Qingfu Han

