

# NCNR

## NIST CENTER FOR NEUTRON RESEARCH

DEPARTMENT OF COMMERCE  
NATIONAL INSTITUTE OF STANDARDS & TECHNOLOGY

ROB DINEO, DIRECTOR

### IN BRIEF

~240 OPERATING DAYS/YEAR

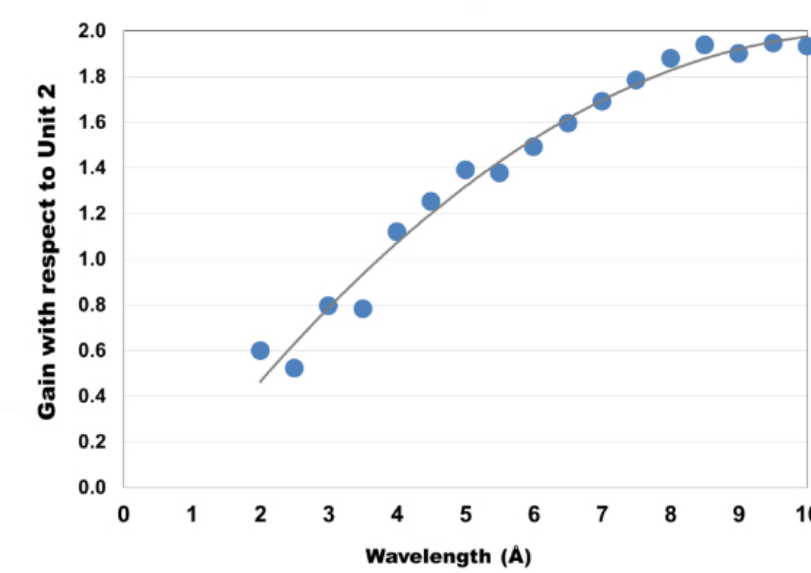
28 INSTRUMENTS

~2500 RESEARCH PARTICIPANTS/YEAR

LICENSED THROUGH 2029

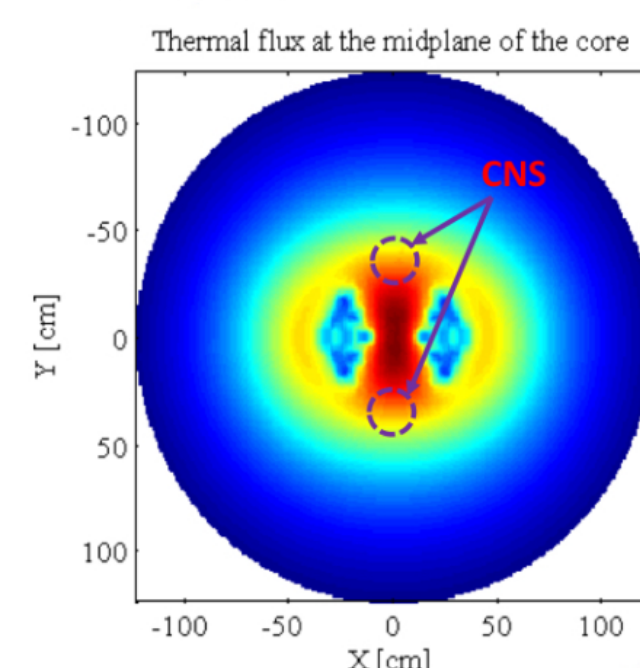
2  $D_2$  COLD SOURCES

### $D_2$ COLD SOURCE DEVELOPMENT

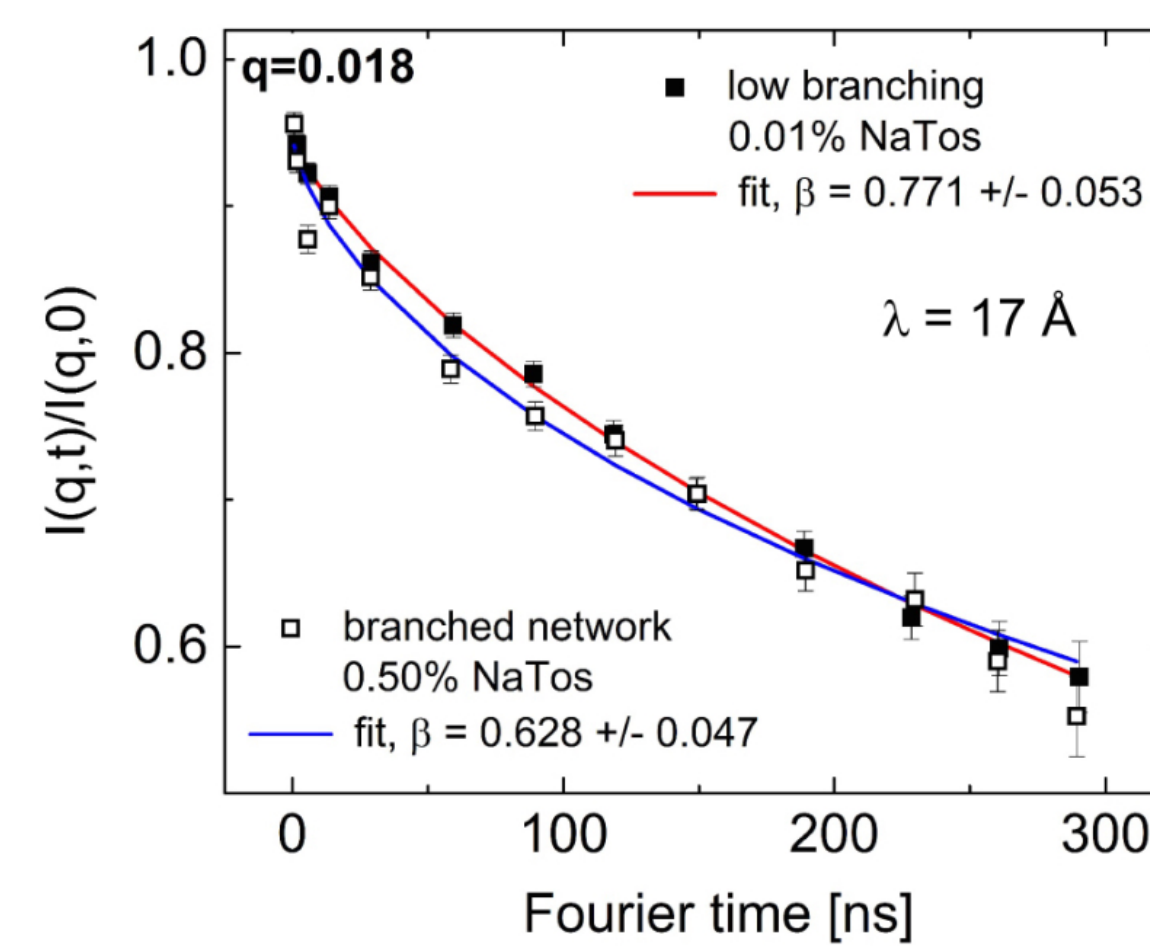


### SOURCE DEVELOPMENT

NEW VS. UPGRADE



ARM  
AGING REACTOR  
MANAGEMENT  
PRIMARY PUMP  
REPLACEMENT  
IN FALL 2017



(CALABRESE & WAGNER)

NSE  
PERFORMANCE  
IMPROVEMENT



CHIRNS



GH LABORATORY

AMGEN  
ARABCO  
CHEVRON-PHILLIPS  
DOW CHEMICAL  
GENENTECH

L'OREAL  
PFIZER  
PROCTER & GAMBLE  
SOLVAY  
TOYOTA RESEARCH INST.

30 m SANS

CHIRNS

NEUTRON  
LIFETIME

TULANE  
UT  
GETTYSBURG COLLEGE  
IU  
ORNL

PGAA

MAGIK

PBR

CANDOR

2018

VSANS

2017

HFBS  
PERFORMANCE  
IMPROVEMENT  
 $\times 2.4$

CHIRNS

DCS

CHOPPER REPAIRED  
DCS RESTART UPON RETURN

SPINS

CNDP

PHADES

MDM

PHYSICS

30 m SANS

COLD  
NEUTRON  
IMAGING

CHIRNS

MACS

DARTS  
PERFORMANCE  
& CAPABILITY  
IMPROVEMENT

BT7  
TAS

PERFORMANCE  
IMPROVEMENT  
NYS - BG

mTc

BTI  
PD

USANS

CHIRNS

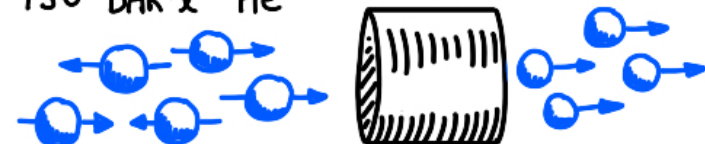
FANS/TAS

NEUTRON  
IMAGING

### NEUTRON SPIN FILTERS

6  
YEARS

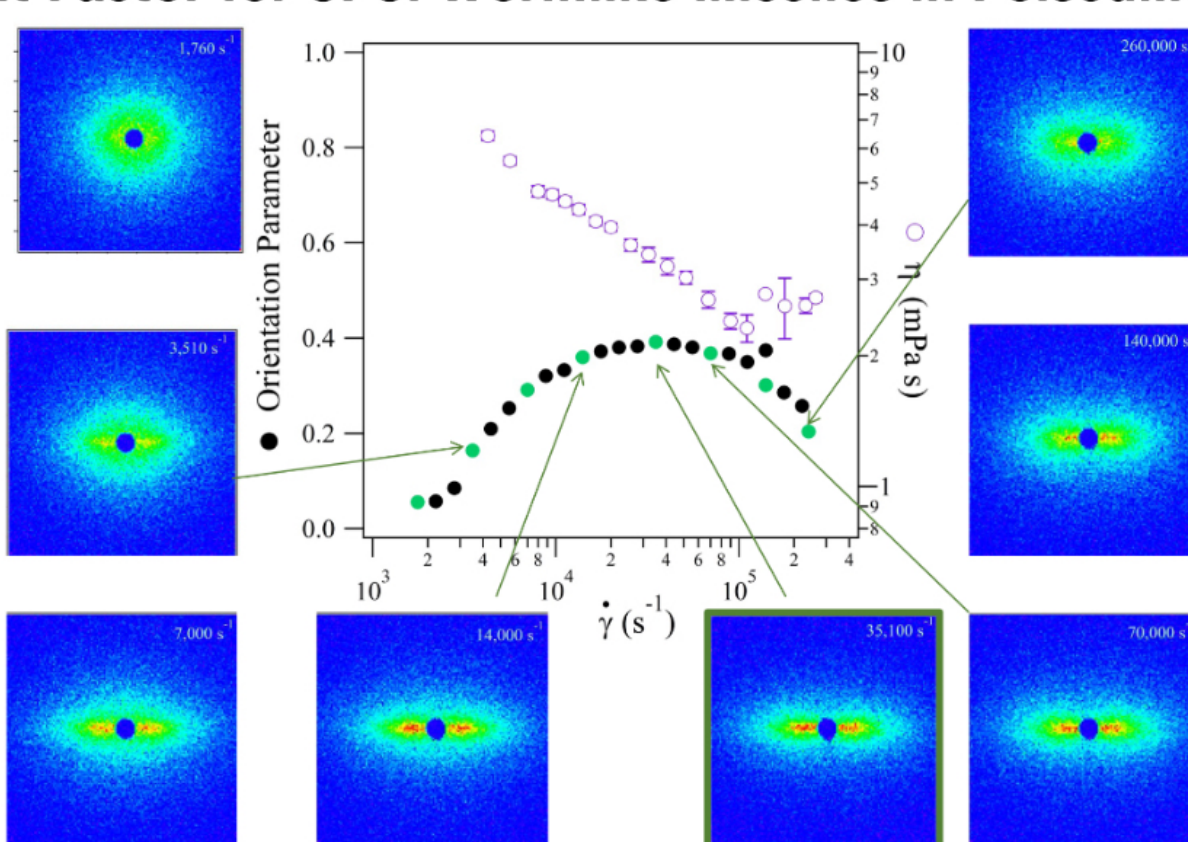
150 EXPTS  
540 BEAM DAYS  
930 BAR-1  $^4\text{He}$



"MOZART" - NEW WIDE ANGLE CELL

### FLOW CELL: $\mu$ RHEO SANS (WEIGANDT ET AL.)

Alignment Factor for CPCI Wormlike Micelles in Poiseuille Flow



### $\mu$ RheoSANS of Anionic Wormlike Micelles

1.15% Steol CS460/8% NaCl in  $D_2O$

