

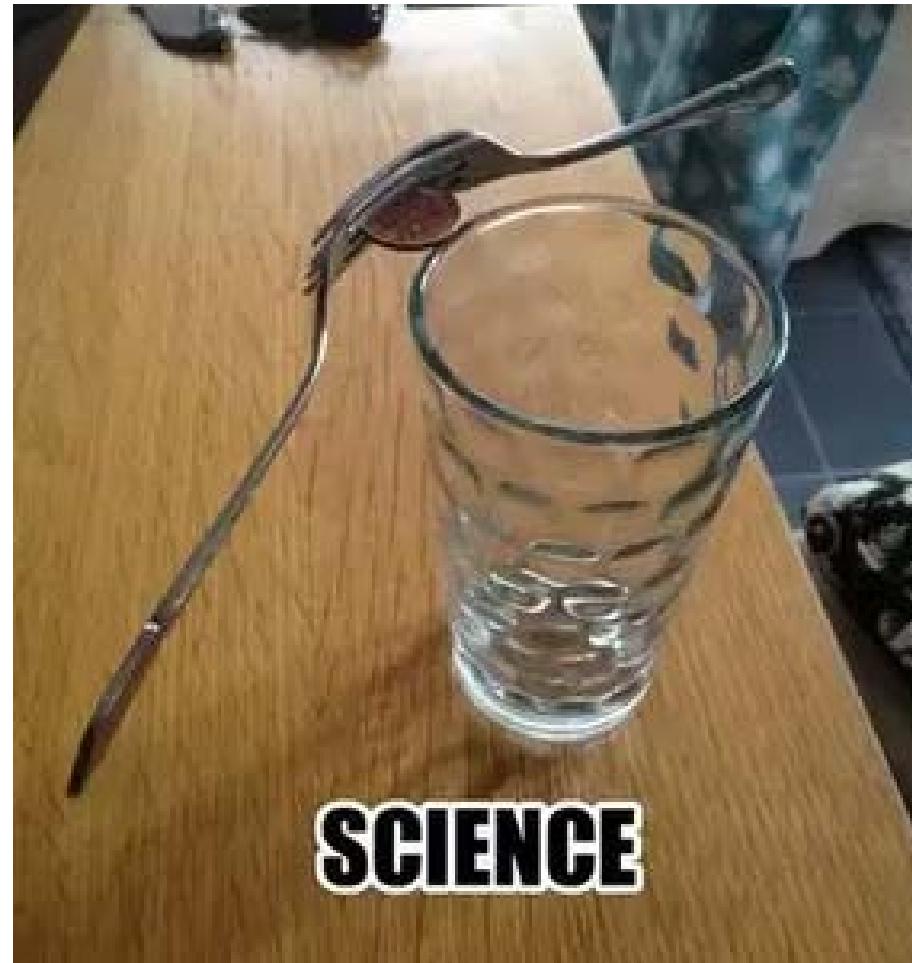


WIR SCHAFFEN WISSEN – HEUTE FÜR MORGEN

Christof Niedermayer :: Laboratory for Neutron Scattering and Imaging

Welcome to DENIM VII

Design and Engineering of Neutron Instruments Meeting





SCIENCE



ENGINEERING

FunnyHole.com



.....and maybe scientists in general

Overview

← Basel

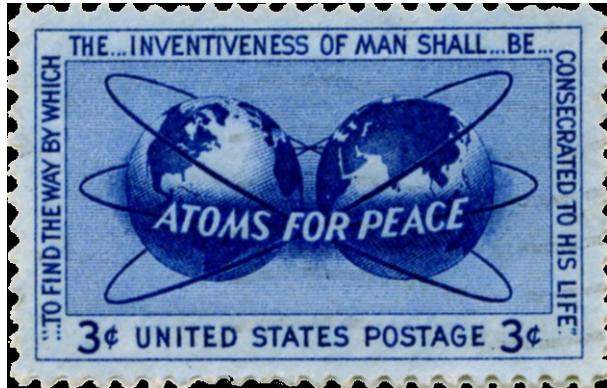
Germany ↑

Aaraus/Bern ↓

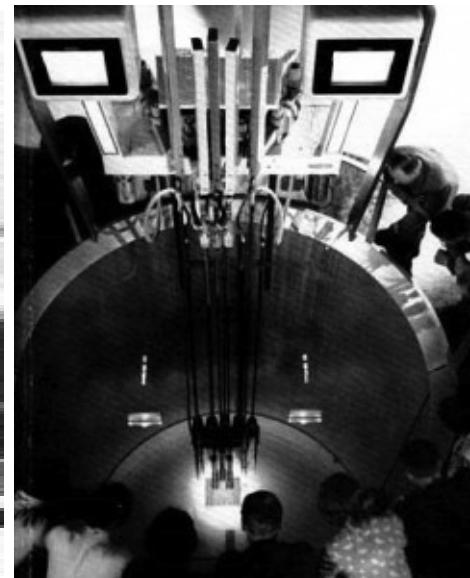
Zurich →



First International Conference on the Peaceful use of Atomic Energy Atoms for Peace, Geneva 1955



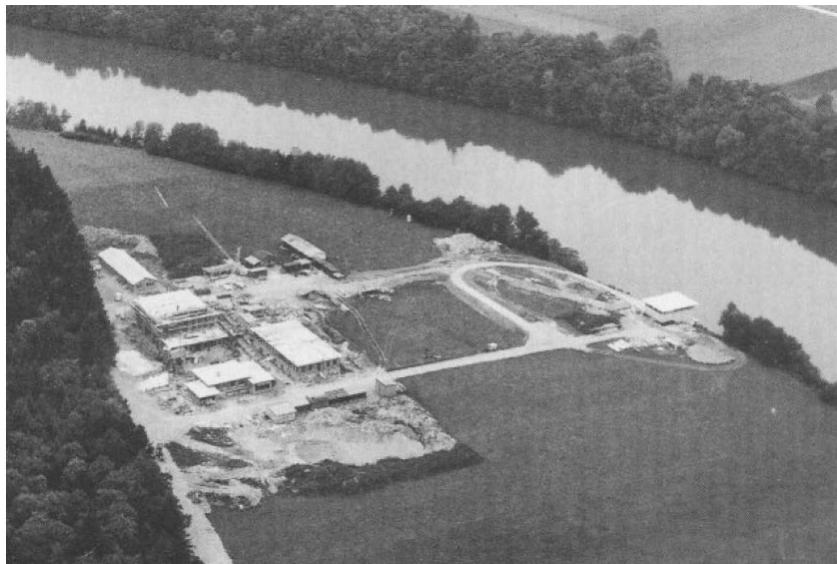
Swimming pool reactor (10 kW)
62 000 visitors within 2 weeks



Purchase of SAPHIR for 180 000 US \$ = 770 000 sfr (including 6 kg of enriched Uranium)

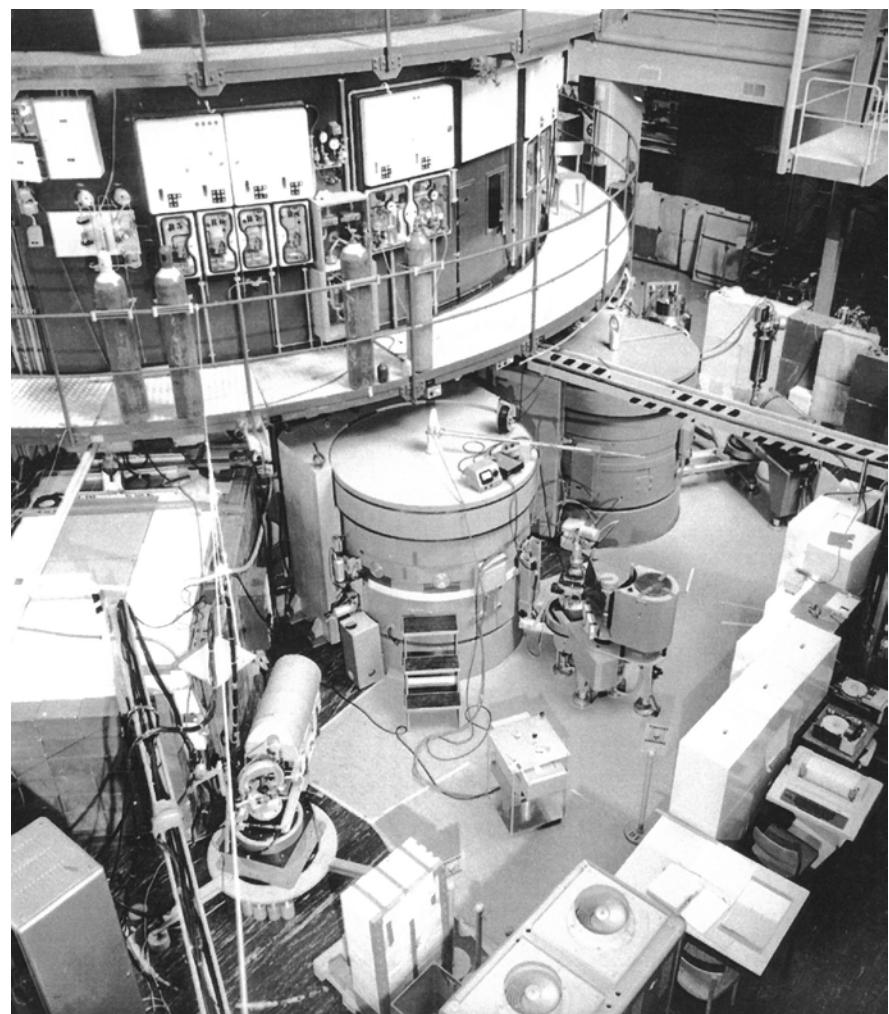
Construction of SAPHIR (1956/57)

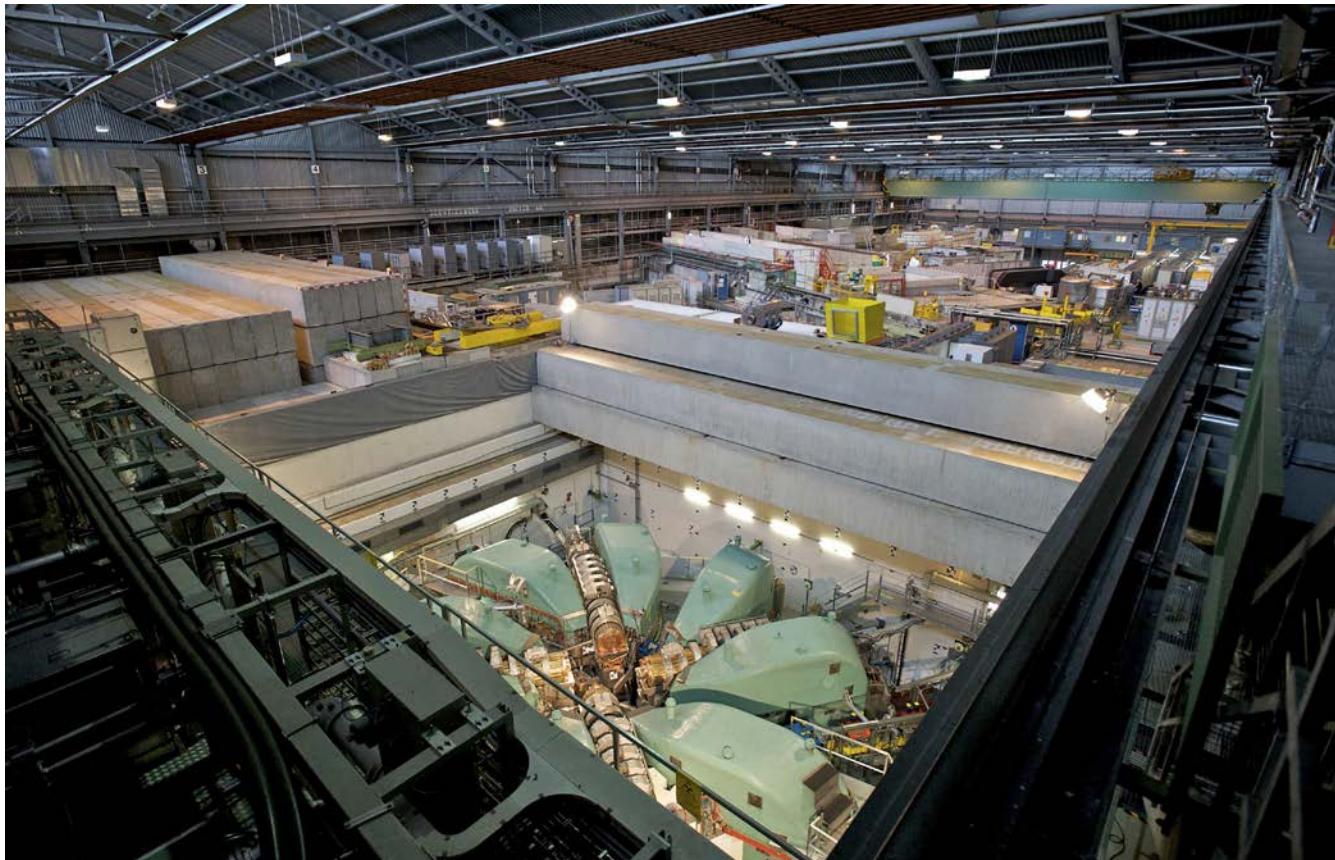
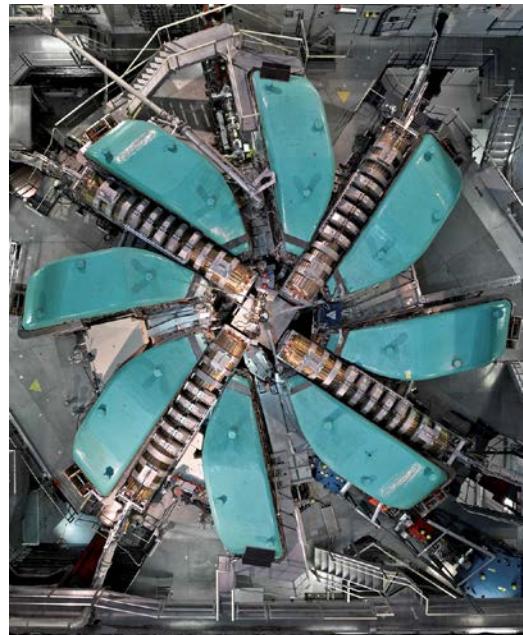
EIR : Eidgenössisches Institut für Reaktorforschung



Paul Scherrer and
Walter Boveri (1956)

Diorit : Heavy water reactor 20 MW (1960 -1977)



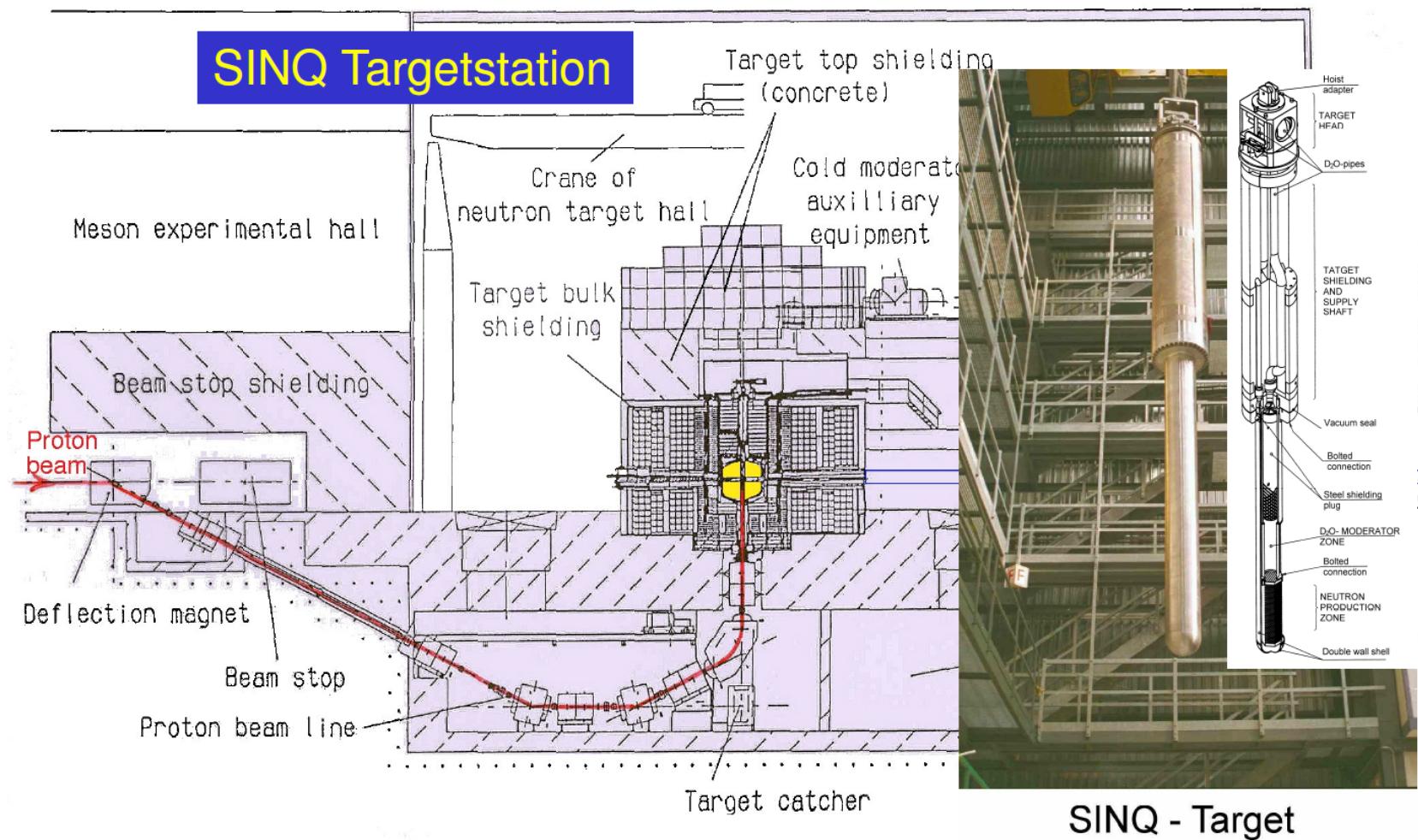


Ring cyclotron accelerates protons to 590 MeV (80% of speed of light).
Designed for 200 μ A proton current it runs now at 2.5 mA.
World's most powerful accelerator in terms of proton current .
2.5 mA at 590 MeV = 1.5 MW

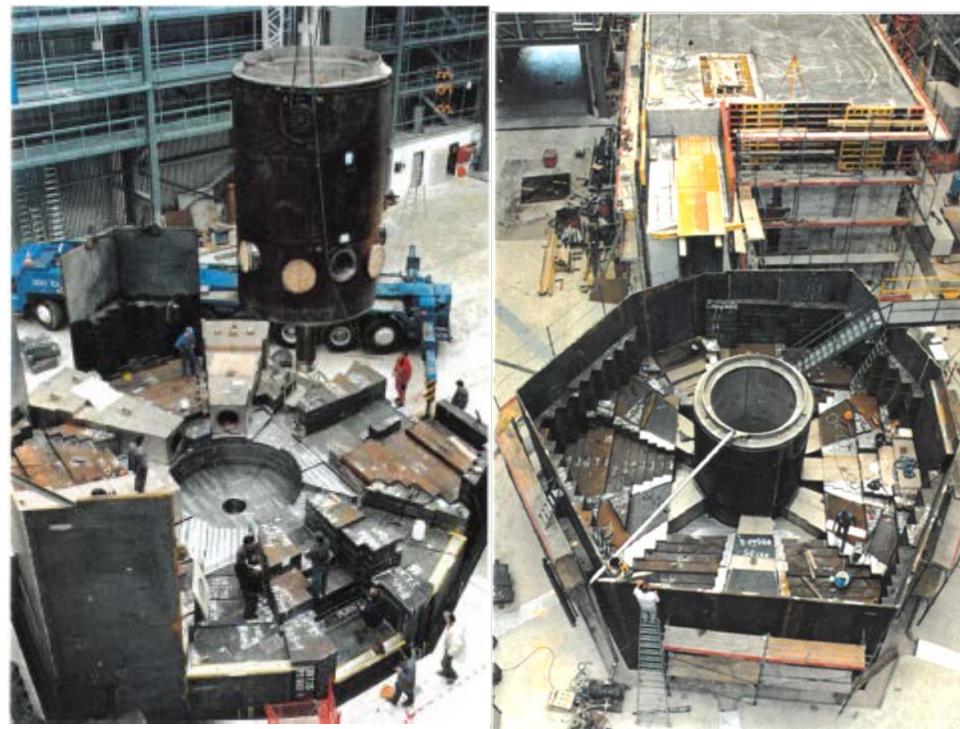
Spallation neutron source SINQ

Concept based on a continuous neutron beam first discussed at a meeting on April 14, 1978

SINQ is an acronym meaning „SIN-Quelle“ in German („Quelle“=source)



Construction of SINQ 1988 - 1996



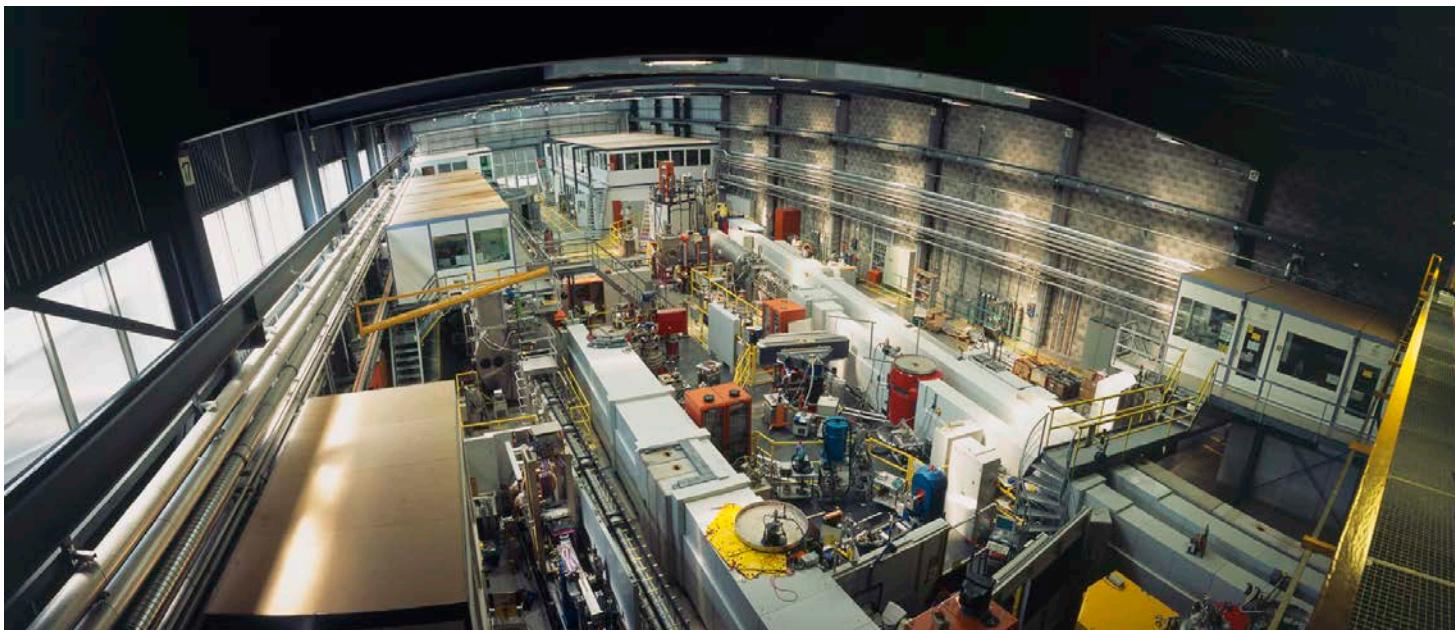
Time to realize a given neutron source as a function of the calendar year when it was first proposed.

Peter Egelstaff
“Egelstaff’s Law”

SINQ today

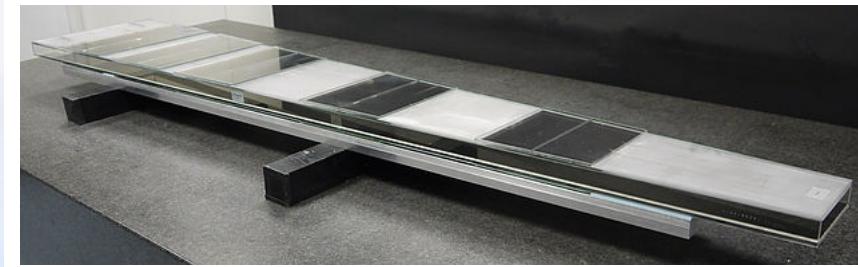
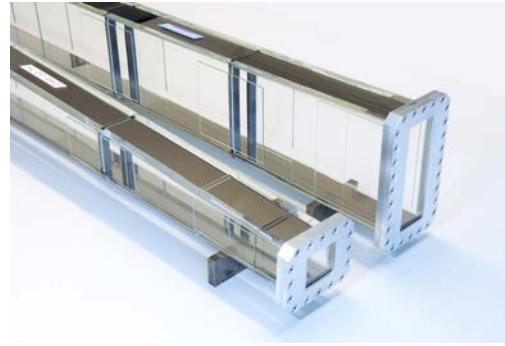


Target shield



Guide Hall

Supermirror technology



Pictures courtesy of

MIRR-TRON

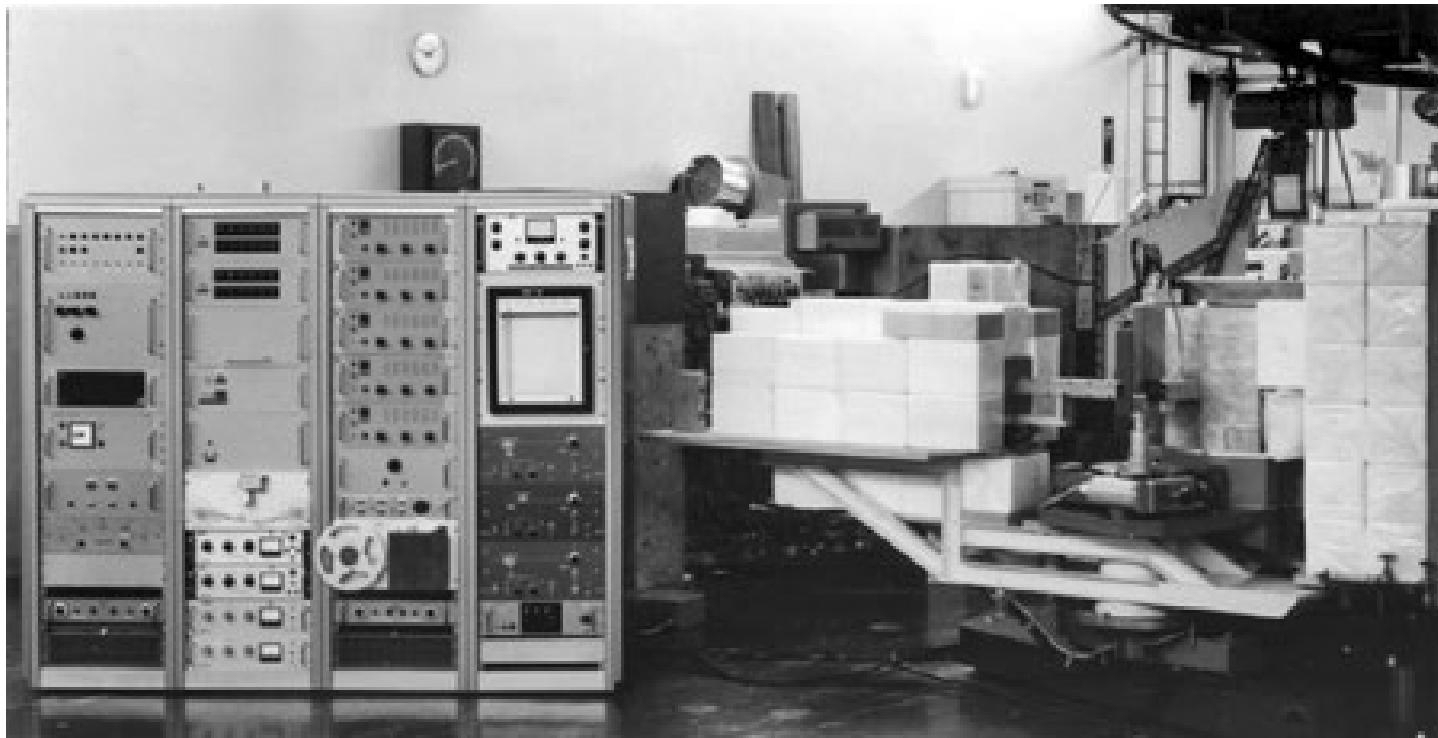
SwissNeutronics
Neutron Optical Components
& Instruments



S-DH

Page 13

Now and then : Diffraction

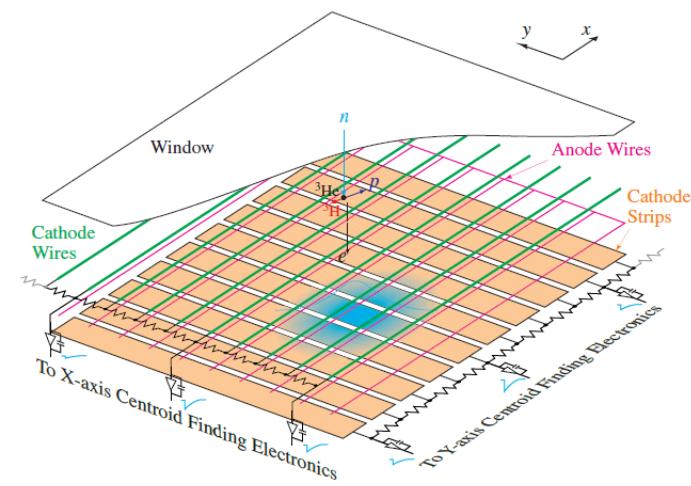


Powder neutron diffractometer with automatic data collection by means of paper tape input and output at DIORIT I.

WISH, ZEBRA, CHARM



High-Efficiency 2D Detector for DMC and ERWIN



Talk by Christian Brönnimann, CEO Dectris AG

Now and then : Spectroscopy

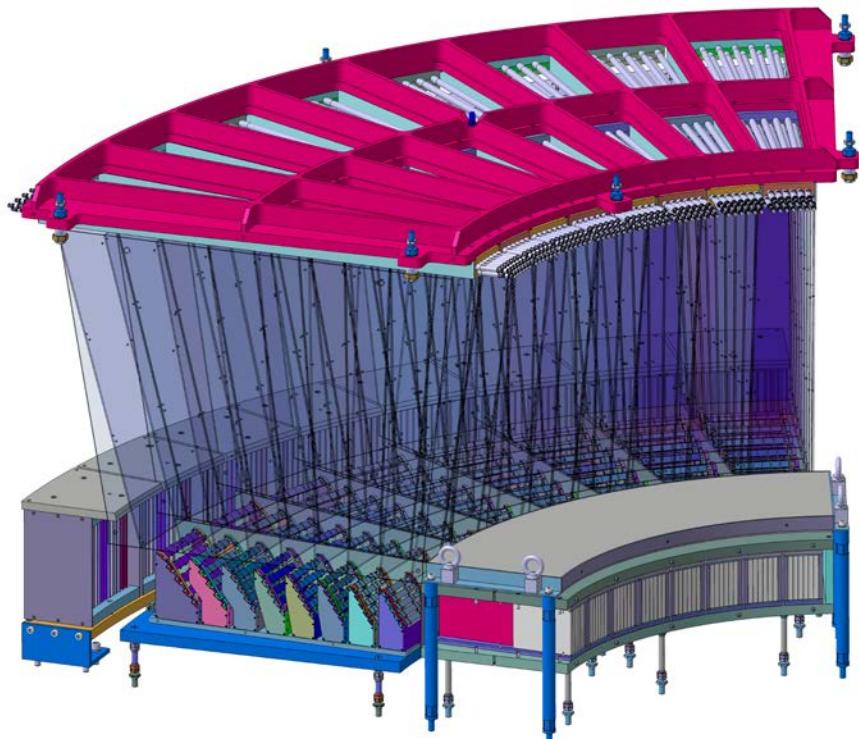


Bert Brockhouse adjusting his triple-axis spectrometer at the NRU reactor,
Chalk River, Ontario (1958)



Peter Böni and Willy Bührer and a more modern variant of a triple axis spectrometer (1995)

CAMEA : a novel multiplexing spectrometer concept



**Talk by Dieter Graf,
Fabrizio Anselmi, Frank Herzog**

