

# Neutron Test beam in NSRC “Demokritos” – Athens

- 2013 & 2014 there is no TB at CERN
- Some users may want to see the response of their equipment in a fast neutron beam
- There is the possibility to use the Neutron beam in NSRC “Demokritos” in Athens
- It has already been used by RD51 collaborators

# Neutron Beam Test at Demokritos

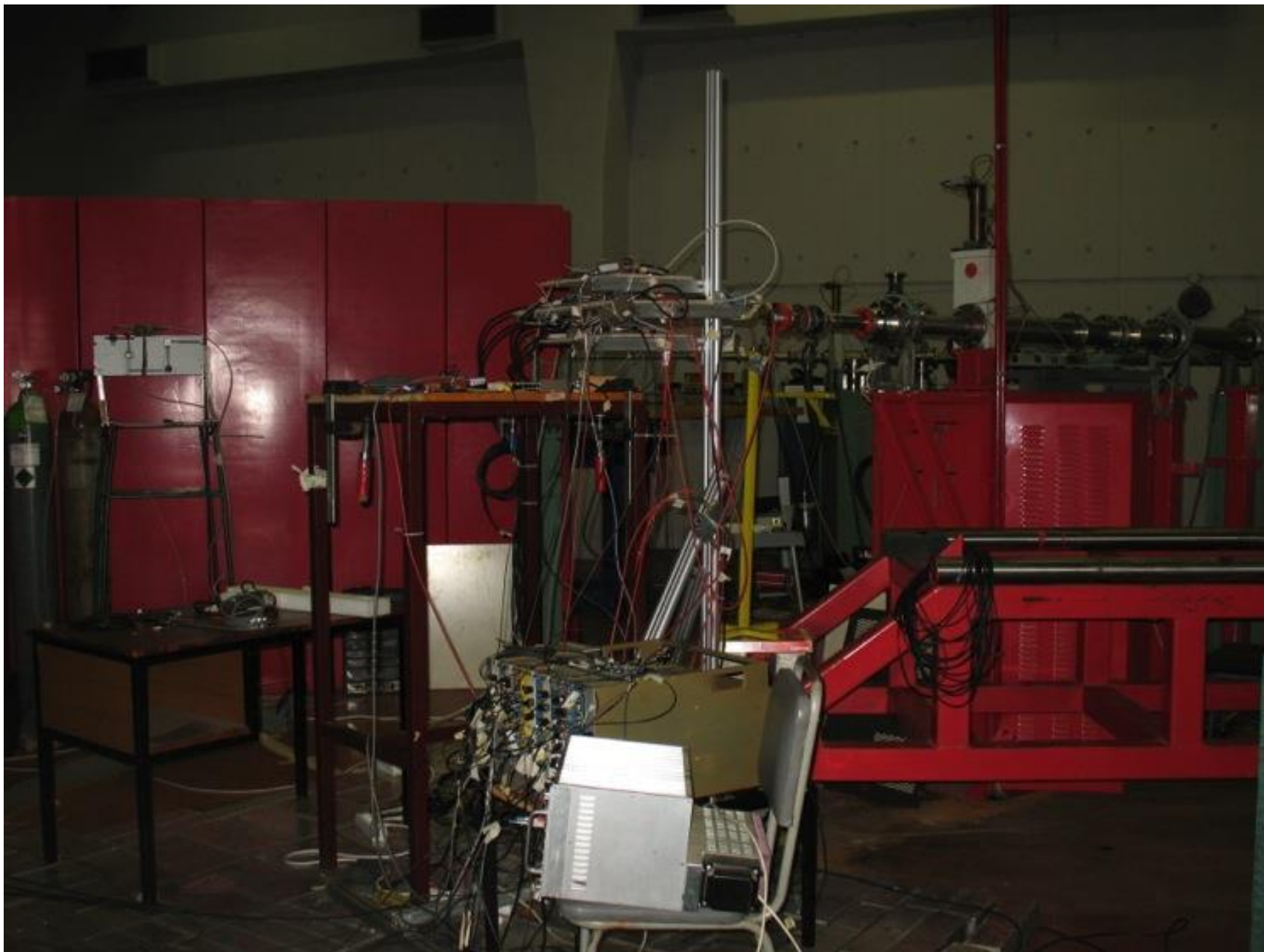
- Neutron energies up to 25 MeV depending on the initial reaction
- Neutrons of 5.5 MeV with fluxes up to  $1.5 \times 10^6$  n/cm<sup>2</sup> s

Nuclear Reaction	Proton/Deuteron Energy Range (MeV)	Neutron Energy Range (MeV)
${}^7\text{Li}(p,n){}^7\text{Be}$	1.9 to 8.4	0.1 to 6.7*
${}^2\text{H}(d,n){}^3\text{He}$	0.8 to 8.4	3.9 to 11.5**
${}^3\text{H}(d,n){}^4\text{He}$	0.8 to 8.4	16.4 to 25.7***

Neutron fluences can reach  $\sim 5 \times 10^6$  neutrons/cm<sup>2</sup> s but for d-<sup>3</sup>H is lower an order of magnitude compared to the d-<sup>2</sup>H reaction due to cross section energy dependence

- used to test ATLAS MDT's
- for the upgrade of the ATLAS NSW TGC's & Micromegas were (and will be) tested
- GEM detectors were tested

# MAMMA neutron Beam Test at Demokritos



# GEM neutron Beam Test at Demokritos

