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Commissioning the DT neutron facility at the University of Cape Town

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A new fast neutron facility has been established within the Metrological Applied Sciences University Research Unit (MeASURe) located in the Department of Physics at the University of Cape Town. The facility features a D-T sealed tube neutron generator within a bunker which can produce a well-collimated beam of 14 MeV neutrons suitable for a wide variety of applications, including cross section measurements, elemental analyses of materials in bulk, and neutron detector characterization and calibrations.

We introduce the facility, and how it is situated within the field of neutron metrology. We detail the existing infrastructure, both physical and computational, and present experimental characterisations of neutron yields, energy spectra and beam profiles. Current and future applications will be discussed.

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