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Section A

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## Results from the commissioning of the n\_TOF spallation neutron source at CERN

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### Abstract

The new neutron time-of-flight facility (n\_TOF) has been built at CERN and is now operational. The facility is intended for the measurement of neutron induced cross-sections of relevance to Accelerator Driven Systems (ADS) and to fundamental physics. Neutrons are produced by spallation of the 20 GeV/*c* proton beam, delivered by the Proton Synchrotron (PS), on a massive target of pure lead. A measuring station is placed at  $\approx 185$  m from the neutron producing target, allowing high-resolution measurements. The facility was successfully commissioned with two campaigns of measurements, in November 2000 and April 2001. The main interest was concentrated in the physical parameters of the installation (neutron fluence and resolution function), along with the target behavior and various safety-related aspects. These measurements confirmed the expectations from Monte Carlo simulations of the facility, thus allowing to initiate the foreseen physics program.

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