

Dottorato di Ricerca in Fisica dell'Università degli Studi di Messina

17 Novembre 2010, ore 16.00, Aula E. Majorana, Dip.to di Fisica,
Ctr. Papardo Sperone, 31, S. Agata, Messina

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Titolo del Seminario:

**The European Spallation Source Linac
and the prospective contribution of INFN to its Design Update**

Abstract

Lund was chosen as the site of the European Spallation Source in May 2009, to be built by 16 European countries. Since then, the preparation for the Design Update phase (January 2011 to December 2012) has started, and it will be completed by the delivery of a Technical Design Report. After its approval, the ESS project will proceed to construction, installation and commissioning, so that the superconducting linac will begin to deliver beam to users in 2019. The average beam power will be 5 MW and a proton (H⁺) macro-pulse current of 50 mA at 2.5 GeV in 2.0 ms long pulses at a repetition rate of 20 Hz will be sent to a single neutron target station.

INFN is involved in the Design Update for some relevant components of this high intensity Linac, namely the Proton Source, the LEBT, the Drift Tube Linac and the superconducting elliptical cavities for the high energy section. The terms of the cooperation between the different institutions are under definition and the teams for the different Work Packages are almost defined.

A description of the prospective contribution of INFN, with particular care to the role of LNS, will be presented.