

ACCELERATOR SEMINAR

“GUINEVERE: an ADS mock-up experiment”

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GUINEVERE, Generator-of-Uninterrupted-Intense-NEutrons-at-the-lead-VEnus-REactor, is a project devoted to experimental studies of Accelerator Driven System feasibility and investigation of the on-line reactivity monitoring, sub-criticality determination and operational procedures.

A versatile neutron source, GENEPI-3C, drives the sub-critical lead core VENUS-F located at SCK•CEN in Mol (Belgium). The GENERator-of-NEutrons-Pulsed-and-Intense-3C is an electrostatic accelerator generating 14 MeV neutrons by bombarding a 250 keV deuteron beam on a tritium target located in the reactor core. A new accelerator has been developed by CNRS/IN2P3 to produce alternatively short (1 μ s) and intense (40 mA peak) deuteron pulses with adjustable repetition rate, as well as continuous beam (1 mA DC). Moreover, a third mode provides programmable interruptions on the continuous beam suited to fulfill the requirements of the experimental program. Beam will be inserted vertically into the reactor core. The accelerator is designed to enable the vertical section of the beam line to be easily craned out the reactor bunker for maintenance operations, target changes and core loading procedures. This presentation will describe the design of the accelerator and its commissioning. The coupling of the accelerator to the sub-critical core is foreseen for the end of 2010.

This work is performed within the 6th Framework Program EC project EUROTRANS.

Friday, October 1, 2010

11:00 a.m. – 12:00 p.m.

CEBAF Center, Room F113

Coffee before Seminar at 10:30 a.m.