

Abstract of ISOLDE-Proposal

MEASUREMENT OF β -DELAYED NEUTRON SPECTRA FROM FISSION PRODUCT
PRECURSORS

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During the last years considerable effort has been devoted to the investigation of β -delayed neutrons from fission products. Delayed neutron data have been shown to be relevant to various aspects in nuclear physics, to the synthesis of heavy nuclides by astrophysical processes and to nuclear reactor applications.

With these perspectives, we propose to measure - as an extension of our current programme - delayed neutron spectra of a number of fission products with $Z = 31-34, 36, 38-41, 49-52, 54$ using the beams already available at ISOLDE and later on also the targets presently under development.

We foresee that our experiment could participate in several ISOLDE runs starting Sept. 1982. The measuring time for a neutron spectrum with reasonable counting statistics ranges from 1 to 25 h, depending on the isotope. The total beam time requirement will be about 25 shifts.

We propose to carry out the measurements in the Cd/paraffine shielding cabin in UR9.

Since some of the precursors of interest will become available in the course of new target/ion source developments, we propose to carry out these measurements in collaboration with the CERN ISOLDE group using the Mainz ^3He -neutron spectrometers.

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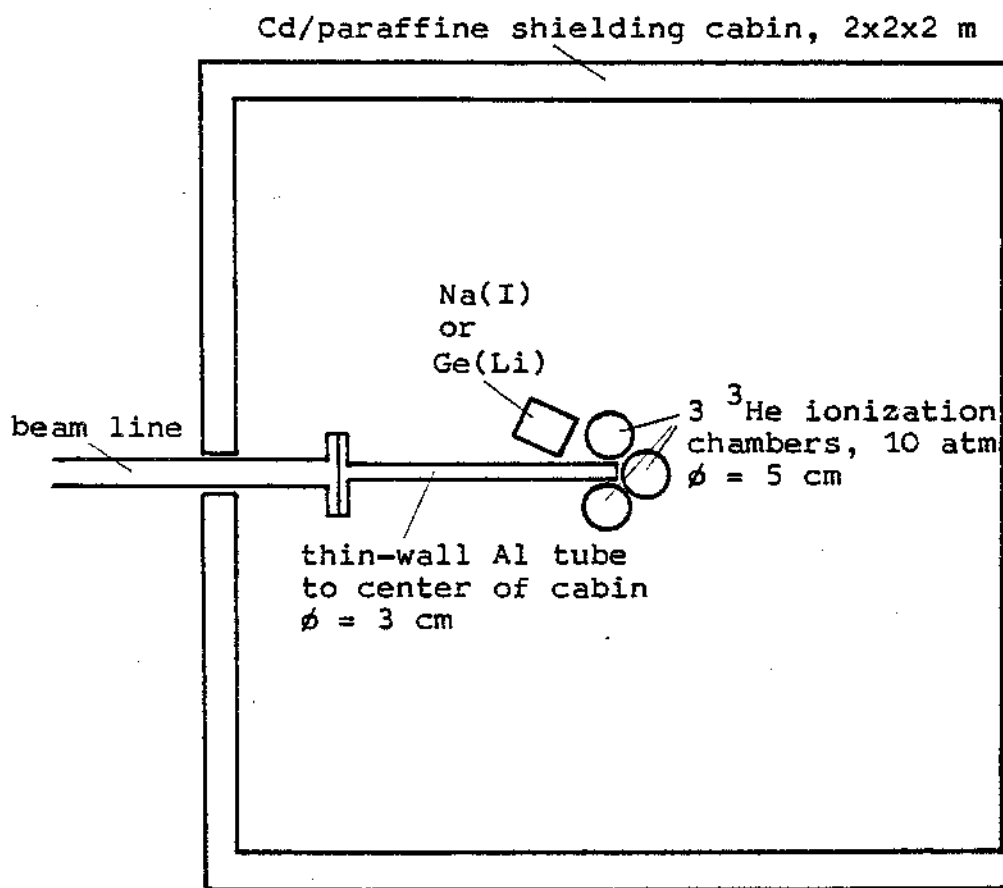
ISOLDE-Proposal

Measurement of β -Delayed Neutron Spectra from Fission Product
Precursors

CERN/PSCC/82-18; PSCC/P54

Drawing of Experimental Set-up

ISOLDE, UR9



Remove tape system and, if possible, also pump situated
inside the shielding cabin.