T. Stora

Target and Ion Source Development (TISD)

EN-STI-RBS

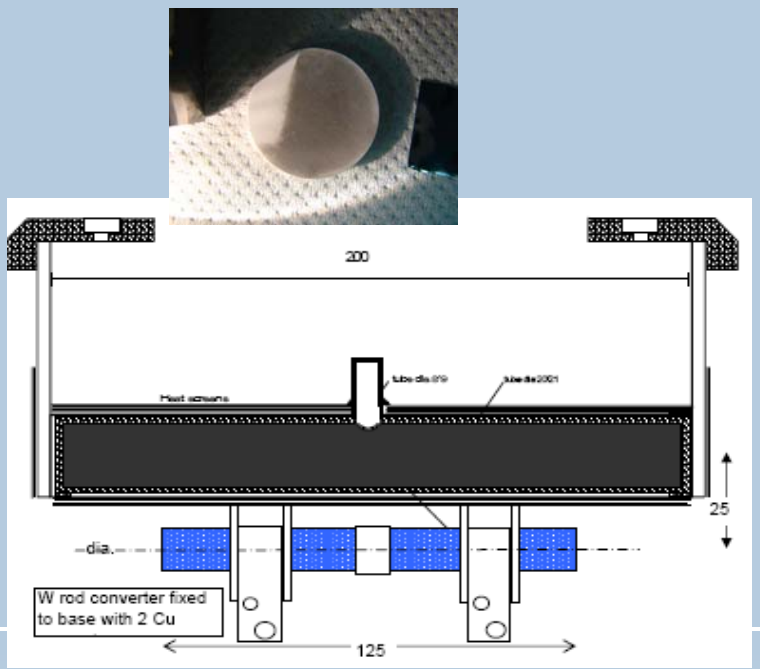
TISD

- BeO tests : target material, n-converter for (n,X)
- Low work function cavities (GdB_6) for Nd beams
- UC-x tests (INFN, EURISOL Task#3)

- Involvements at the European level (workshops, EU projects)

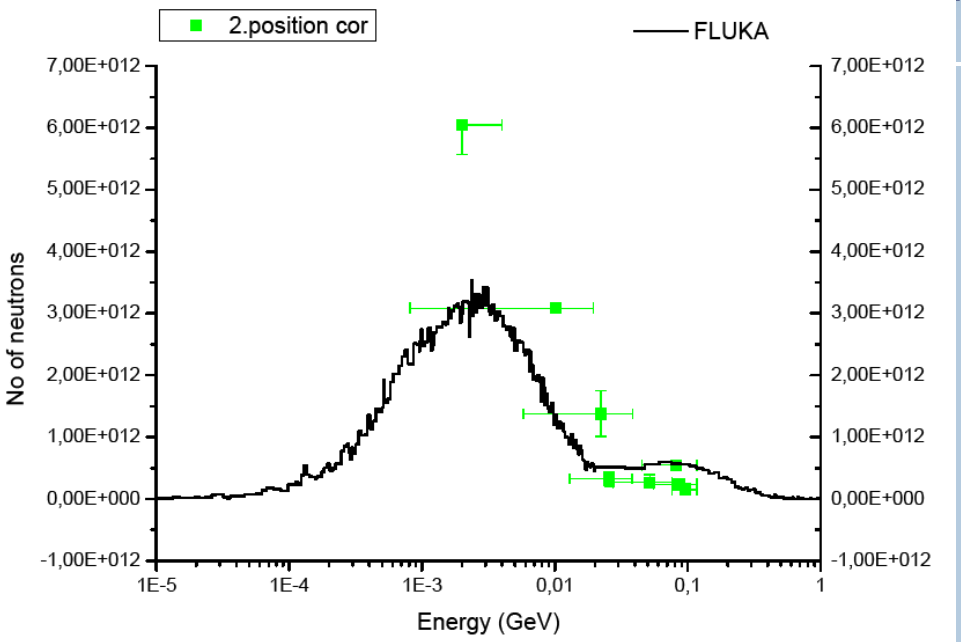
Neutron characteristics

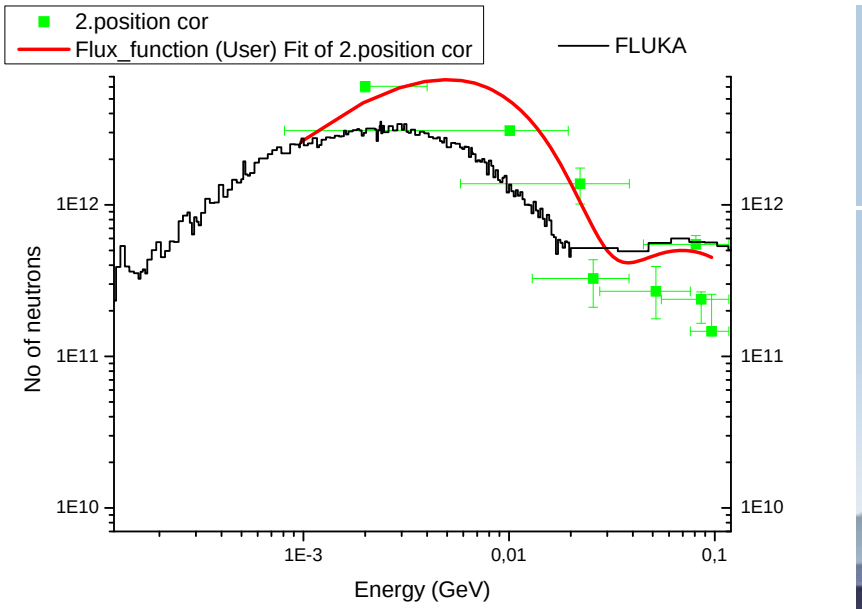
- Foil activation & Fluka simulations

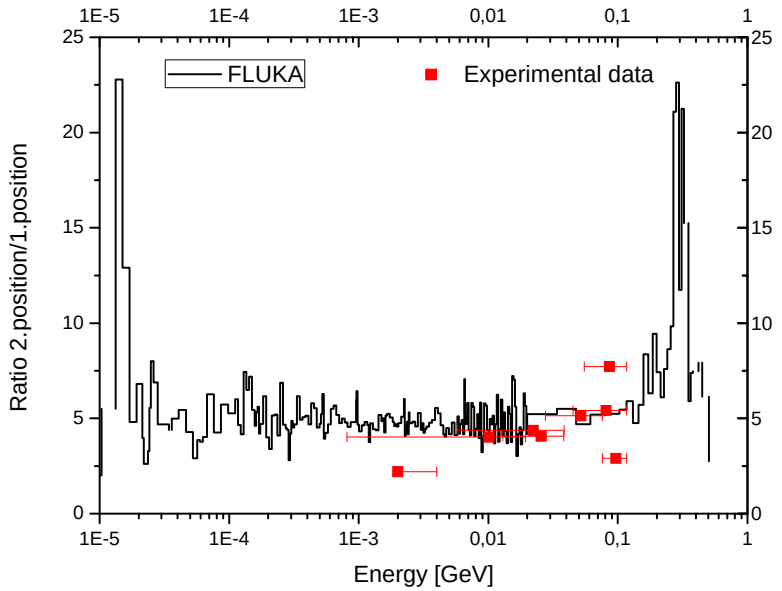


Irradiation permit requested to SC-RP

Neutrons characteristics

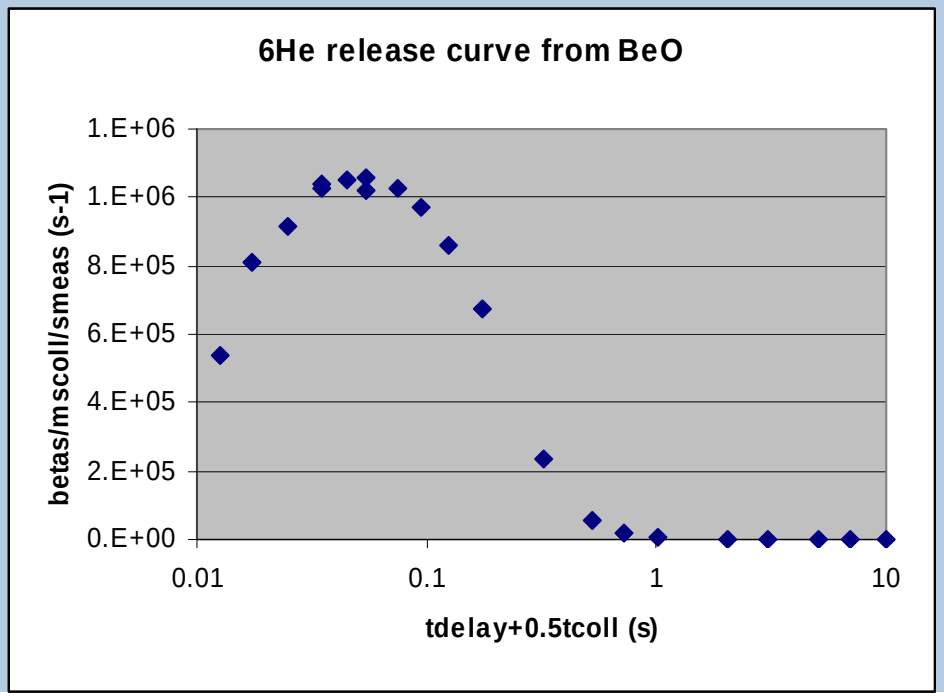


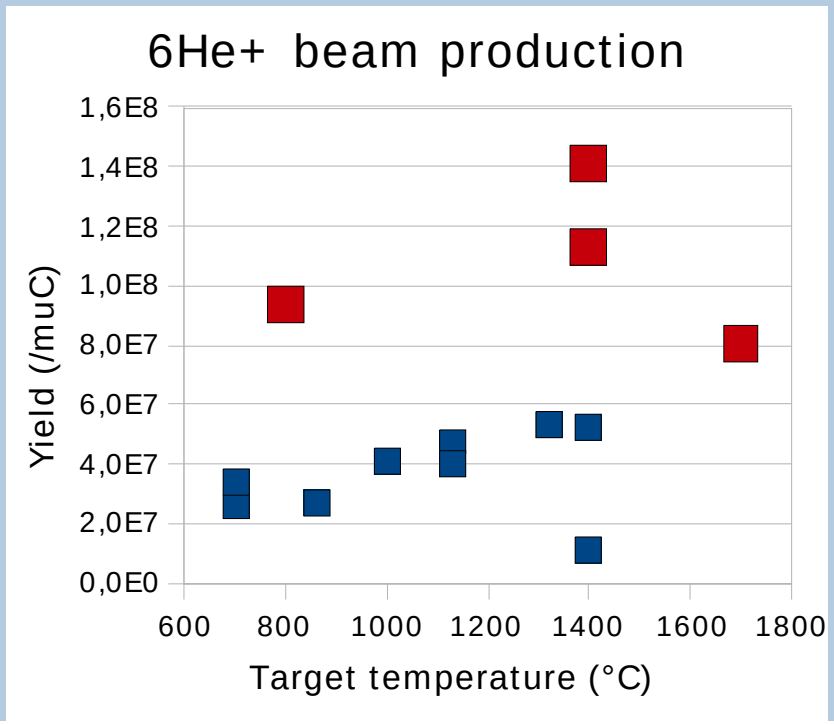




E. Noah, R. Hodak, P. Delahaye

^{6}He Yields

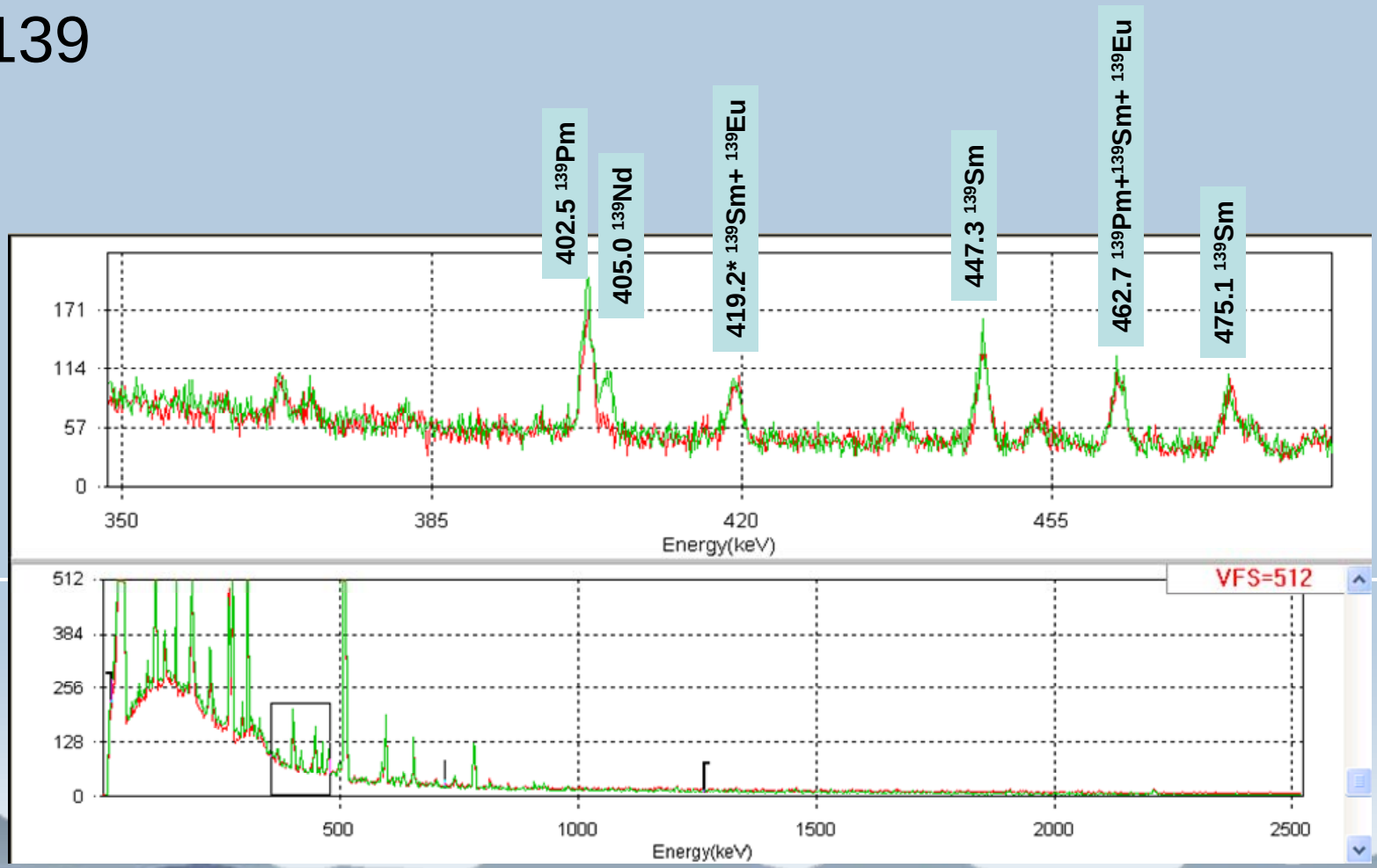




- Also Be(n,2p)^{8}He production seen

Nd beams with GdB_6 cavity

A=139



Nd beams with GdB_6 cavity

	Ta402-GdB_6 w/o RILIS	Ta402-GdB_6 RILIS on	Ta414-W w/o RILIS
β_counts (/s_{coll}/μC)	4400	4900	19800
Yield estimates (/μC) ^{139}Pm+^{139}Sm	1.8e6	1.8e6	9.0e6
Yield estimates (/μC) ^{139}Nd	n.d.	1.5e6	n.d.
Total beam current (pA) A=139	-	-	<1
Total beam current (pA) A=140	<1	<1	4
Total beam current (pA) A=142	1	1	-

UCx target tests with INFN-LNL

- Excellent target purity
- Analysis foreseen early 2010
- No miracles, no catastrophy : excellent benchmarking for the upcoming ENSAR “ActILab” : Joint Research Activity 2.

ActILab – JRA2 within FP7 ENSAR

- The *Joint Research Activity JRA2 ActILab* aims at the integration of new and original R&D activities organized at the different beam development laboratories of the principal European ISOL-type facilities (ALTO, EXCYT(SPES), IGISOL, (HIE-)ISOLDE, SPIRAL (II), EURISOL) within a unified panEuropean ActILab. It will focus on the development of new actinide targets which constitute the heart of the On Line Isotope mass Separation (ISOL) technique.
- *JRA2 ActILab* is split into 4 Tasks - 360 (160) kEuros requested to EU:
- **Task 1: Synthesis of new actinide targets** (Participants: ***CERN***, INFN, IPNO)
- **Task 2: Characterization of new actinide targets** (Participants: ***CERN***, INFN)
- **Task 3: Actinide targets properties after irradiation** (Participants: ***CERN***, PSI)
- **Task 4: Online tests of actinide targets** (Participants: ***CERN***, GANIL, IPNO)

Participation in JRA3 PreMass

International Joint Workshop

CERN, Geneva, Switzerland

40èmes Journées des Actinides

27th March - 30th March 2010

2nd Workshop on Actinide Targets

30th March – 1st April 2010

LOCAL ORGANISING COMMITTEE

- R. Catherall
- K. Johnston
- T. Stora
- V. Vlachoudis

TOPICS

- Nuclear fuel cycle, environment
- Inorganic, organometallic chemistry
- Theory, electronic structure
- Materials science, nanomaterials
- Strongly correlated behaviours; superconductivity, quantum criticality
- Actinide production
- Actinide handling
- Radiation protection

SCIENTIFIC COMMITTEE

- A. Gonçalves
- L. Havela
- D. Kaczorowski
- A. C. Morton
- A. Ferrari
- E. Chiaveri
- T. Otto

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