

HRIBF Users Workshop

summary - ISOL Technology Session

presentations:

HRIBF ion sources (D. Stracener, HRIBF)

Laser ion sources (Y. Liu, HRIBF)

Pure post accelerated beams:

chemical techniques (C. Jost, ORAU & Mainz U) ,

photo-detachment (C. Havener, HRIBF)

gas stopping and re-accleration, He-jet (J.J. Das, UNIRIB)

m-TOF (V. Shchepunov, Shimadzu Europe)

High power target development (D. Stracener, HRIBF)

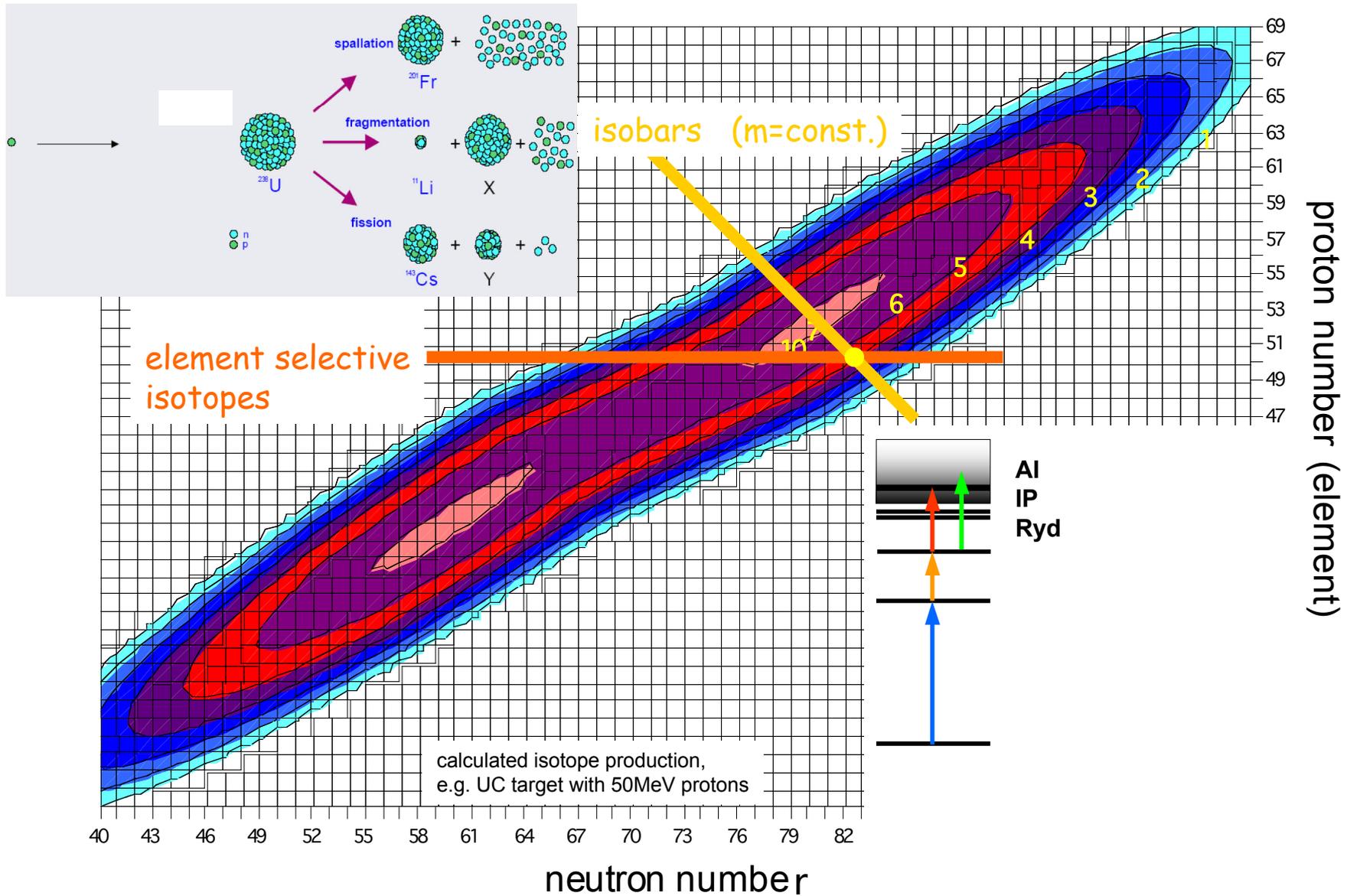
high density UC targets, 2- step targets (E. Spejewski)

⇒ show of existing target & ion source capabilities

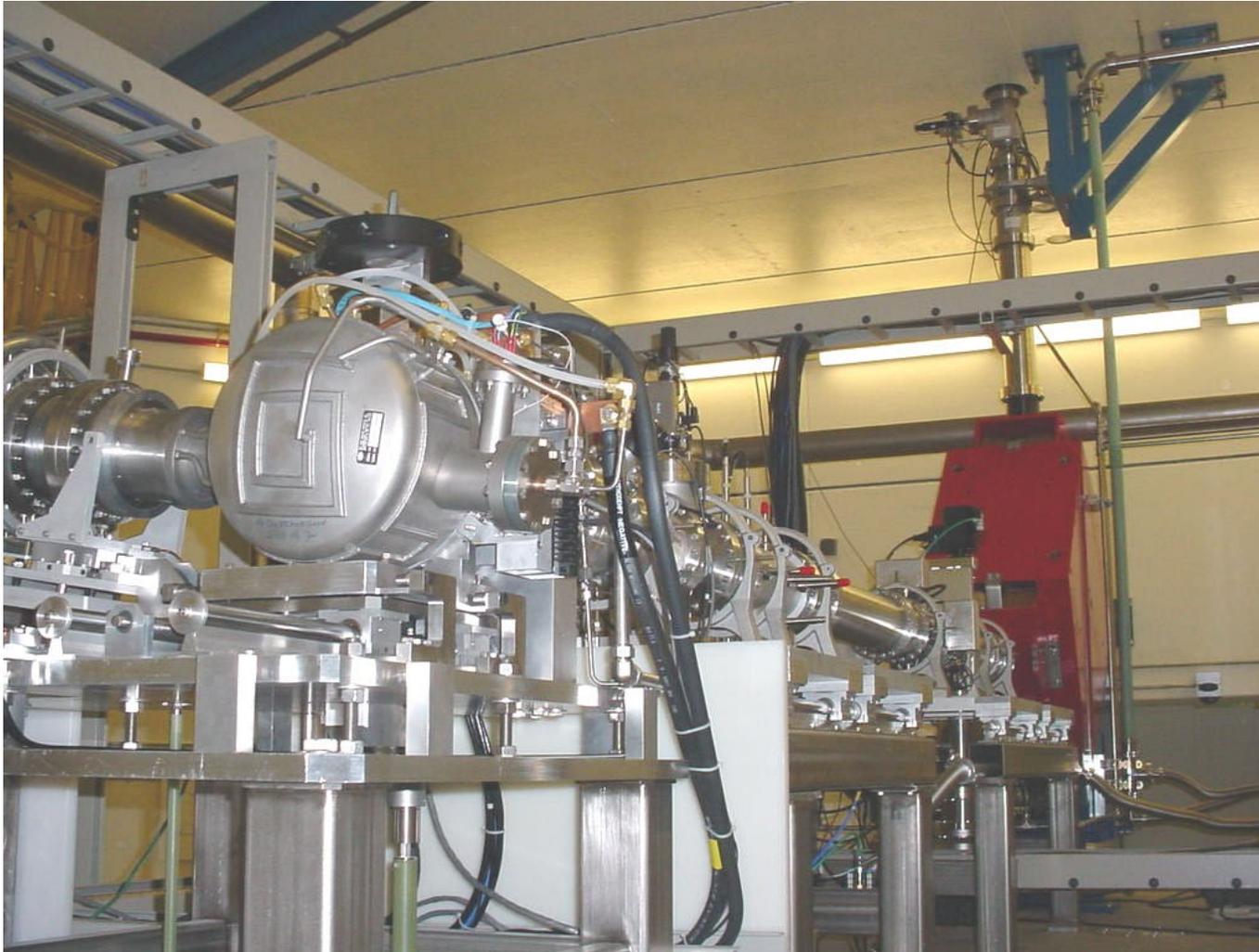
⇒ direction of development: cleaner beams & high power targets

⇒ need for improved quality & uptime driver beam

RIB production: why „trace detection“ techniques are required



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Existing arsenal of:
modern on-line
ion sources
& targets

expertise (10+y)
modern facility
development

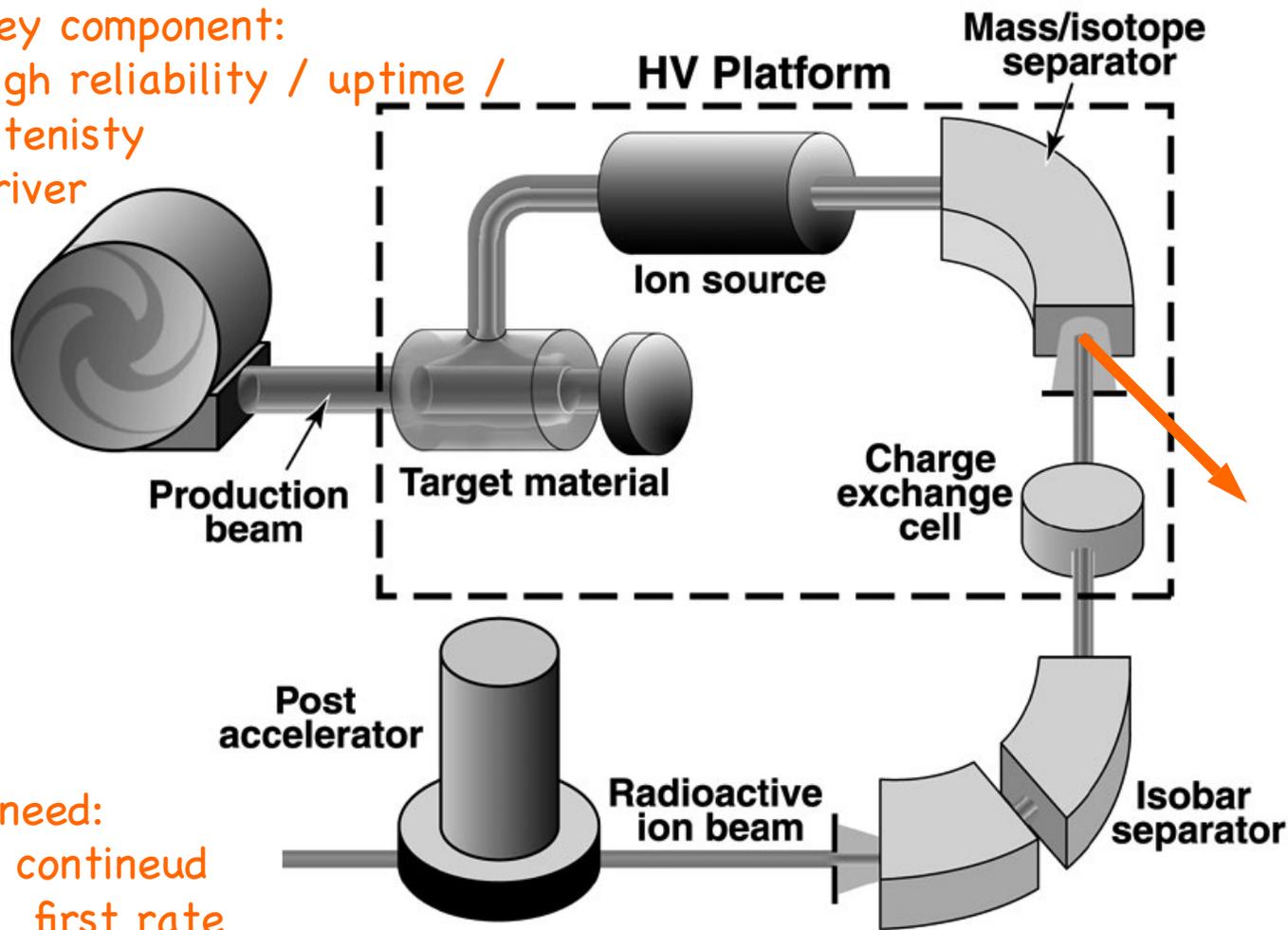
-> needs reliable
high intensity driver

- Electron Beam Plasma Ion Source (EBPIS)
- Kinetic Ejection Negative Ion Source (KENIS)
- Multi-sample, Cs-sputter ion source for ^7Be , ^{10}Be , ^{26}gAl beams
- Laser Ion Source (going on line)

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Key component:
high reliability / uptime /
intensity
driver



need:
continued
first rate
experiments

need:
low energy exp.
area for $^+$ ion beams

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Facilities:

- Ion Source Test Facility I (ISTF-1) negative ion beams
/photodetachment
- Ion Source Test Facility II (ISTF-2) laser ion source
- High Power Target Laboratory (HPTL)
- TIS module assembly station

on-line target ion sources

Experience:

10⁺ years in target materials / pos. & neg. ion sources
molecular ions / charge exchange / beam delivery

Developments:

Isobar suppression

High power targets / two step (converter) targets using D⁺

Conclusion:

key for maintaining a competitive HRIBF program is a proton- or heavy ion- driver that can provide for

- (i) reliable ISOL beams from high power targets at 2000h⁺/y and
- (ii) has headroom for additional high intensity target development

