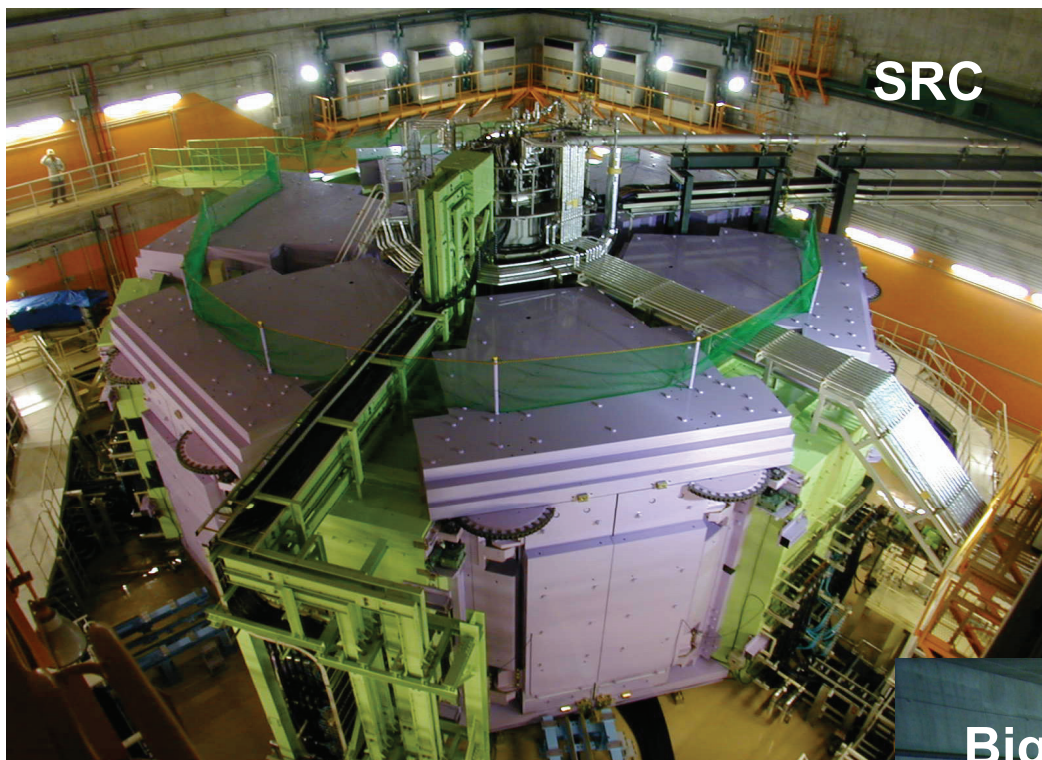


Flash Report
on the first outcome from RIKEN RI beam factory
commissioned on March 27, 2007

Discovery of a very neutron-rich
new isotope Pd 125 (N=79, Z=46)

The first test experiment of RIBF, Last week

Y. Yano
RIKEN Nishina Center
June 6, 2007



SRC

**World's First and Strongest
K2600MeV (8,300tons)
Superconducting Ring Cyclotron**

345 MeV/u Uranium ($^{238}\text{U}^{86+}$) beam

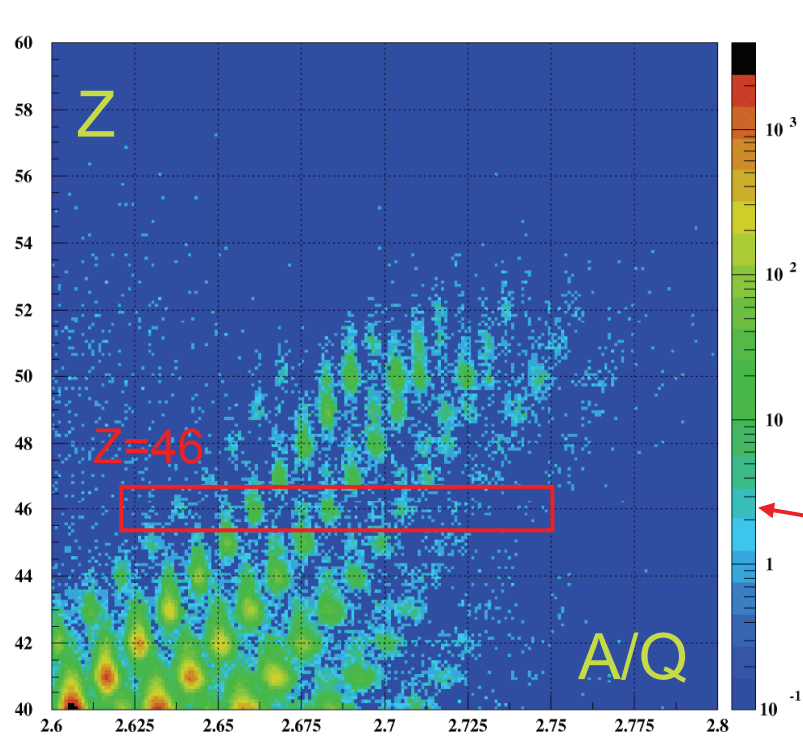
10^8 particles/s (5 orders of magnitude
smaller than the goal intensity)

**World's Largest Acceptance
9 Tm (70 m)
Superconducting RI beam Separator**

Fission fragments produced in 7mm
thick Be target



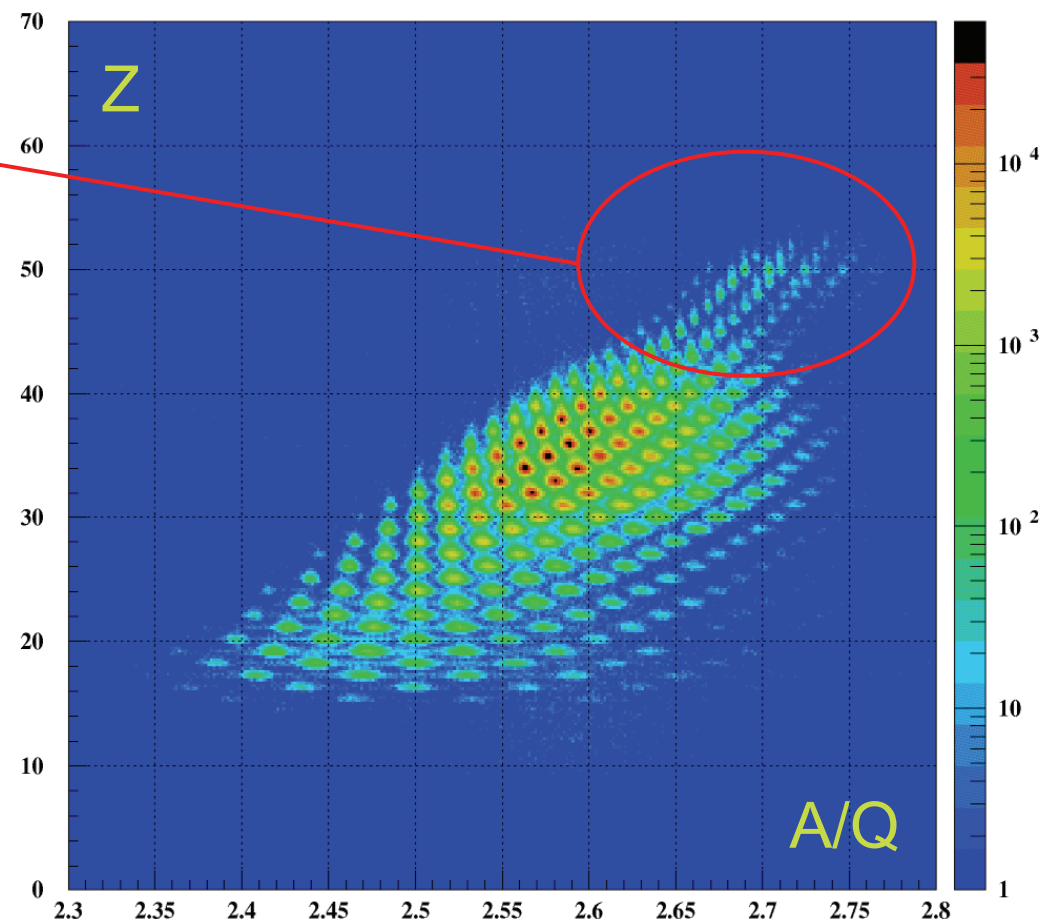
BigRIPS



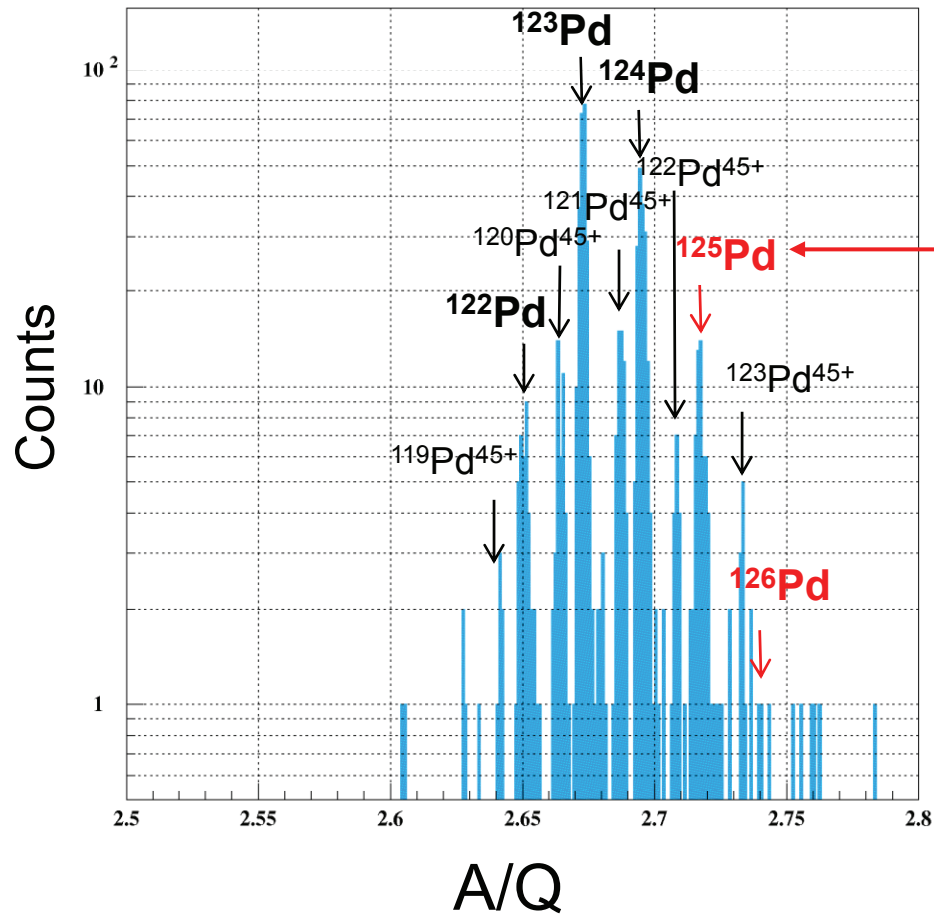
$B_p: 7.438 \text{ Tm}$

Total dose: 1.08×10^{13}
Total time: 25.4 hour

Z vs. A/Q Plot



Yield Distribution for A/Q



¹¹⁹ Pd ⁴⁵⁺	2.6444(2.6413)	
¹²² Pd	2.6521(2.6506)	38 counts
¹²⁰ Pd ⁴⁵⁺	2.6666(2.6648)	41 counts
¹²³ Pd	2.6739(2.6728)	245 counts
¹²¹ Pd ⁴⁵⁺	2.6888(2.6871)	55 counts
¹²⁴ Pd	2.6956(2.6952)	173 counts
¹²² Pd ⁴⁵⁺	2.7111(2.708)	16 counts
¹²⁵ Pd	2.7174(2.7171)	59 counts
¹²³ Pd ⁴⁵⁺	2.7333(2.7321)	15 counts
¹²⁶ Pd	2.739()	

A/Q resolution(r.m.s): 0.07%

**The great launch
to explore nuclear world
so far inaccessible !**

Experiment Team

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