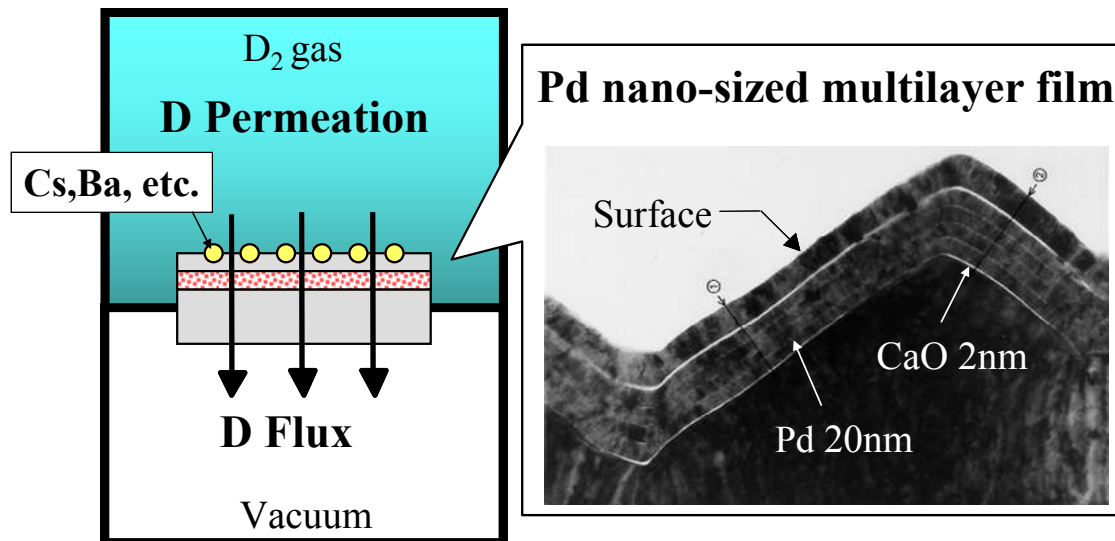


Innovative Low Energy

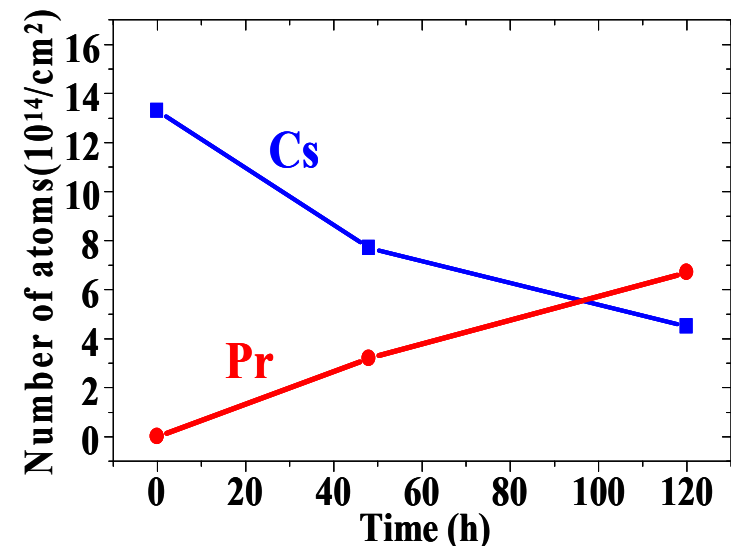
Nuclear Transmutation Method

D₂ gas permeation through **nano-structured Pd multilayer** film makes it possible to induce **nuclear transmutation** under **low pressure and low temperature** condition.

Mitsubishi Transmutation Method



Transmutation of Cs into Pr



Potential Applications & Replication

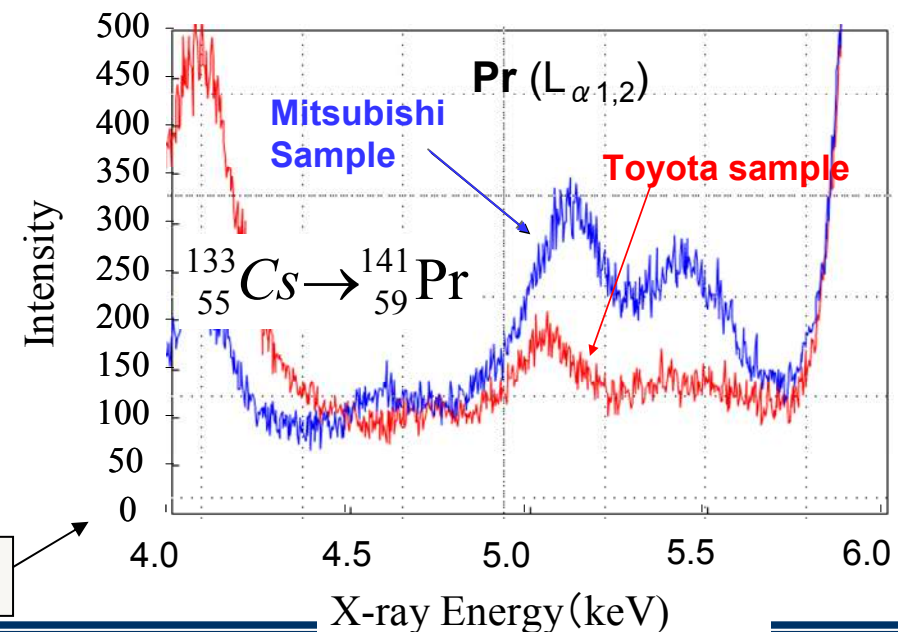
Nuclear transmutation with **very low energy consumption**

Potential application

- 1) **Nuclear Transmutation** of Radioactive Waste
- 2) Production of rare earth materials
- 3) **Portable nuclear energy source**

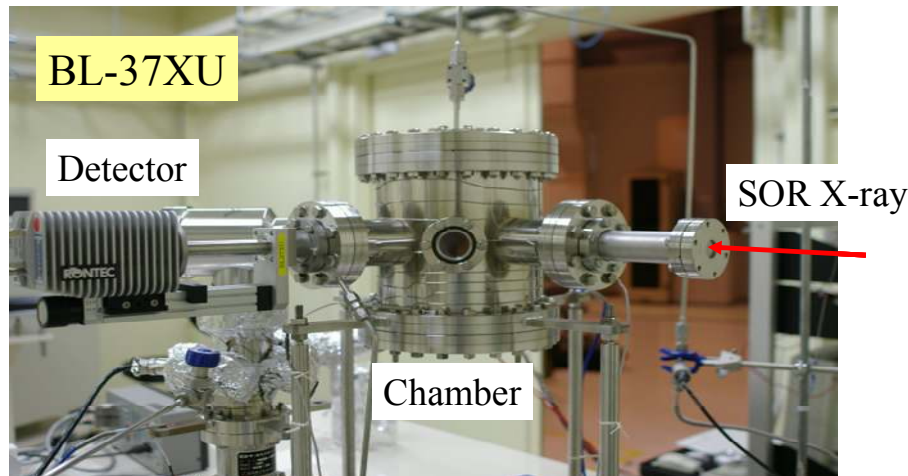
Toyota R&D center,
Osaka Univ., Iwate Univ.,
etc. replicated
transmutation experiments
of Cs into Pr

X-ray fluorescence spectrometry

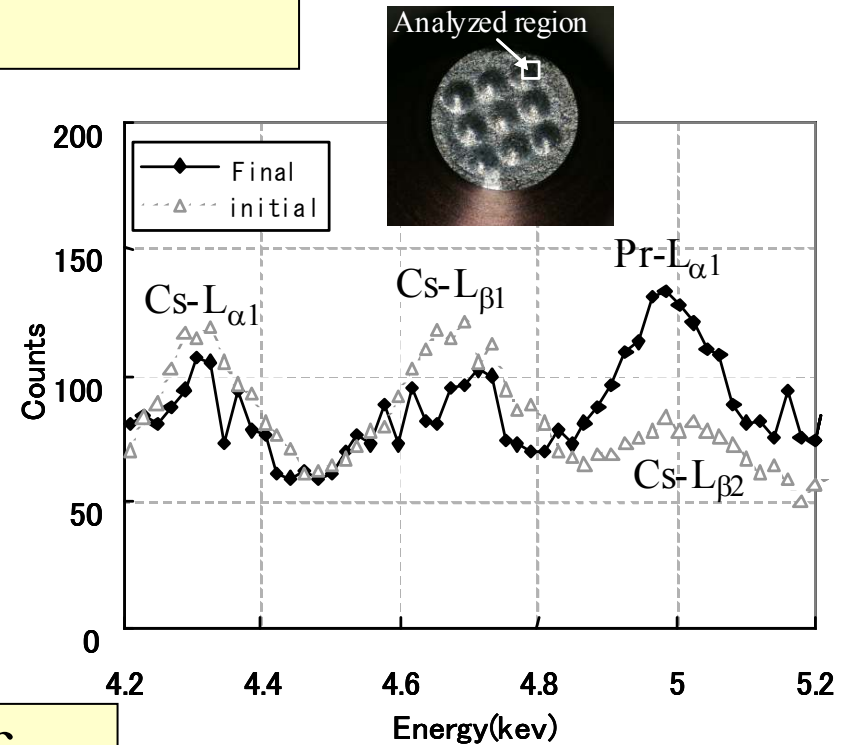


Experimental Results

In-situ measurement of Cs transmutation into Pr at Spring-8 of RIKEN



SOR: synchrotron Orbital X-ray



Transmutation Reactions observed so far

