

Enhancing MA Transmutation by Irradiation of (MA, Zr)H_x in FBR Blanket

- Fabrication of (Ln, Zr)H_x Pellets-

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- MA transmutation process for volume reduction of high-level radioactive waste.
- Effective MA Transmutation process by irradiating (MA,Zr)H_x in FBR blanket .
- Early applicable candidate because many existing techniques can be applied to this MA transmutation process.
- Target fabrication technique development is one of key issue to establishing this process.

➤ Pellet fabrication technique

- ✓ High temperature treatment in liquidus phase
- ✓ Low temperature treatment with attritor

➤ Hydrogenation technique

- ✓ Sieverts' method
- ✓ Design to be installed in glove box and for small specimen

- Results of experiments using Nd/Sm-Zr were performed for establishing target preparation technique prior to experiments using Am-Zr.

The present study includes the result of "Development of MA-Zr hydride for early realization of transmutation of nuclear wastes" entrusted to Tohoku University by the Ministry of Education, Culture, Sports, Science, and Technology of Japan (MEXT).