Fundamental Study on Separation Process

Research Group for Partitioning and Transmutation Cycle

The Aim of the study

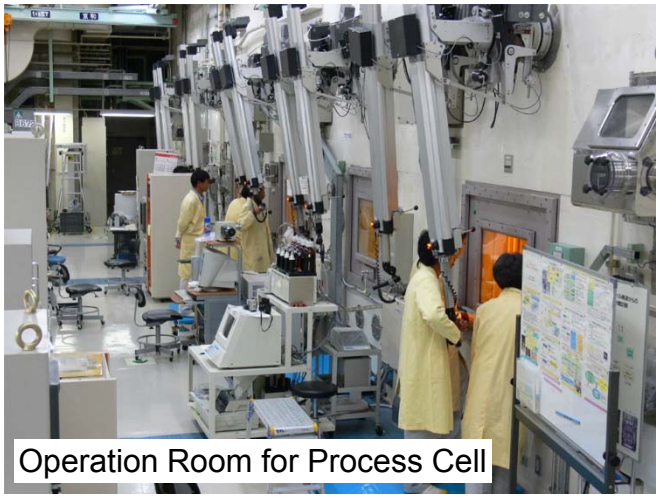
- Fundamental data of actinide chemistry
- Behavior of actinides and fission products in reprocessing and various separation processes
- Application of new extractants and new separation methods

→ Scientific basis of future reprocessing and future nuclear fuel cyle

Requisite for future reprocessing
- Low cost
- Proliferation resistance
- Reduction of waste volume
- Flexibility
- Separation of MA and FP, etc.

MA : Minor Actinides (Np, Am, Cm)
FP : Fission Products

Facility

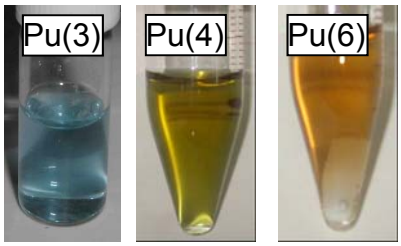


Operation Room for Process Cell

Glove-box

-Process Cell : Tests with Spent Fuel (SF). [SF 2.2 kg (as U), Pu 200g at maximum]

-Glove-boxes and Hume Foods : Basic experiments with actinide solutions
Pu 40g at maximum, Np, Am, Cm, various radioactive isotopes



Pu Solution of different oxidation states

Present Subject

- Technological basis for transition period of nuclear fuel cycle
- Separation process for MA and heat-generating FP