

Super fast reactor R&D projects (phase 2)

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The Japanese research project of the "Research and Development of Super Fast Reactor" had been conducted from December 2005 to March 2010, entrusted to the University of Tokyo by the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT). Aiming at a highly economical fast reactor, the plant concept was developed with quantitative characteristics. The databases of the thermal hydraulics and materials including water chemistry were accumulated by experiments. Based on the success of the project, the next phase (Phase-II) of Super FR project was initiated in July 2010. This project consists of three subjects:

(1) development of the plant concept:

- core design
- safety analyses
- experiment on reactor physics, etc.

(2) thermal-hydraulics:

- water experiments
- freon experiments
- CFD analysis

(3) material-coolant interactions:

- experiment on corrosion product transport
- experiment on high temperature oxidation, etc.

The Super Fast Reactors has the same plant system of the once-through coolant cycle as the Super Light Water Reactors, the thermal reactors. The results of the experimental R&D constitute the common database for the development of the supercritical-pressure light water cooled reactors (SCWR).

"Research and Development of the Super Fast Reactor" phase 2 is entrusted to the Waseda University by the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT)