

International Conference on Fast Reactors and Related Fuel Cycles: Next Generation Nuclear Systems for Sustainable Development (FR17)



Contribution ID: 11

Type: POSTER

Study about the transient characteristics of the unprotected loss of flow accident in a metal fuel sodium cooled fast reactor based on the SAS4A code

Wednesday, June 28, 2017 5:50 PM (1h 10m)

Unprotected loss of flow accident (ULOF) is the most typical severe accident in sodium cooled fast reactor, which is focused by scholars civil and abroad. Metal fuel has different safety characteristics with the oxide fuel as the important development direction of future sodium fast reactor, accident analysis of which is also a research focus at home and abroad. This paper bases on one Cooperation Research Project proposed by ANL and organized by IAEA, analyses the Shut-down Removal Test-45R of the metal fuel sodium cooled fast reactor EBR-II in the US with SAS4A code, to research the transient characteristics of it in ULOF accident. Studies have shown that, metal fuel sodium cooled fast reactor has very good inherent safety performance, which can reduce the reactor power in ULOF accident through the negative feedback itself.

Country/Int. Organization

China/China Institute of Atomic Energy.

Primary author: Mr QIAO, Pengrui (China Institute of Atomic Energy, Beijing, China)

Co-author: Mr HU, Wenjun (China Institute of Atomic Energy, Beijing,China)

Presenter: Mr QIAO, Pengrui (China Institute of Atomic Energy, Beijing, China)

Session Classification: Poster Session 2

Track Classification: Track 6. Test Reactors, Experiments and Modeling and Simulations