

**International Conference on Fast Reactors and Related Fuel Cycles FR22:
Sustainable Clean Energy for the Future (CN-291)**

Contribution ID: 11

Type: ORAL

Analysis of Fuel Burnup and Safety Parameters of Gas Cooled Fast Breeder Reactors

Friday 22 April 2022 14:54 (12 minutes)

The Fast Reactor concept has been proposed by Generation-IV initiative as a potential candidate to develop safe, sustainable, reliable, proliferation-resistant and economic nuclear energy systems (GIF, 2002). Within fast reactor core, fission chain reaction is sustained by fast neutrons which result in a much higher and harder neutron flux than that of thermal reactors. This high neutron flux allow for the production of fissile materials from fertile nuclides through the so-called breeding process, whereas, part of fission neutrons is used to convert fertile nuclides (^{238}U and ^{232}Th) into fissile nuclides (^{239}Pu and ^{233}U , respectively).

Two computational models, homogeneous and heterogeneous, of the large scale Gas cooled Fast concept GFR24

Country/Int. organization

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Session Classification: 3.4 Advanced Fuel Development

Track Classification: Track 3. Fuels, Fuel Cycles and Waste Management