

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



Contribution ID: 141

Type: ORAL

## FASTER Test Reactor Preconceptual Design

*Monday, June 26, 2017 4:50 PM (20 minutes)*

The FASTER test reactor was designed as part of the U.S. Advanced Demonstration and Test Reactor Options (ADTR) Study in 2015/2016. The ADTR study provided an assessment of advanced reactor technology options and is intended to provide a sound comparative technical context for future decisions concerning these technologies. Point designs for a select number of concepts were commissioned.

One of the two test reactor point designs was a sodium-cooled fast test reactor called FASTER. FASTER is a sodium-cooled, metal alloy fueled fast reactor with a core thermal power rating of 300MW. The FASTER plant was designed with extended testing capabilities in mind while trying to keep the reactor plant as simple as possible. The main function of the FASTER plant is to provide high neutron flux irradiation capability for both fast neutron spectrum and thermal neutron spectrum applications.

The FASTER reactor plant incorporates an innovative core arrangement that also provides for irradiation testing in closed loops with different working fluids. This paper will describe the design characteristics of the FASTER plant and provide background information on the ADTR study and its objectives.

### Country/Int. Organization

United States of America

**Primary author:** Mr GRANDY, Christopher (Argonne National Laboratory)

**Presenter:** Mr GRANDY, Christopher (Argonne National Laboratory)

**Session Classification:** 1.2 SFR DESIGN & DEVELOPMENT - 2

**Track Classification:** Track 1. Innovative Fast Reactor Designs