

NURETH-17



Call for Papers

Abstract due : Dec. 15, 2016
Final paper due: Feb. 28, 2017

NURETH-17 Special Topic Space Reactor Thermal-Hydraulics Topic Organizer: Fatih Aydogan and Jun Liao

Various nuclear space technologies have been designed in the recent decades. These technologies are mainly designed for rocket propulsion and electric generation. The significant advantage of using these technologies is to generate power for a long period of time without refueling and maintenance of the power generation modules. However, thermal-hydraulic design and analysis of these technologies are challenging because of harsh space conditions. These challenges are mainly design, analysis, computational tool and experimental challenges for nuclear space applications. This panel will discuss various current thermal-hydraulic challenges for the nuclear space applications in detail. We are pleased to invite global experts, scholars and researchers in the field of space nuclear thermal-hydraulic to present papers and discuss topics relating to the impact of space conditions on nuclear systems. Please remit your abstract/paper to the following suggested topics or any related subjects ASAP.

Topics include, but are not limited to:

1. Basic Thermal Hydraulics (TH) under Space Conditions
 - Flow and Heat Transfer Fundamentals
 - Experimental Thermal Hydraulics and Instrumentation
 - Radiation Heat Transfer Fundamentals
 - Natural Circulation
2. Code Development Including Numeric Systems (System TH and CFD)
 - Computational Fluid Dynamics
 - Core Thermal Hydraulics and Subchannel Analysis
 - System Code Development
3. Operation & Safety under Space Conditions
 - Transient and Accident Analysis
 - Instabilities and Nonlinear Dynamics
 - Modeling and Experiments of Severe Accidents
 - Passive Safety Systems and Related Phenomena

