

NURETH-17



Call for Papers

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

NURETH-17 Special Topic

CFD modeling and validation for multi-phase flows in nuclear reactor systems

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Steam-water flows play an important role in the nuclear reactor cooling system under normal operation and for heat removal under accidental conditions. Today safety analyses related to multiphase flows mainly base on 1D system codes. However for large components 3D effects are not negligible and thus there is a need for reliable 3D simulations. There is a clear progress on multiphase Computational Fluid Dynamics (CFD) modelling, simulation and validation during the last years. Nevertheless CFD presently is not yet mature for multiphase flows. E.g. there is no general agreement on closures which are needed for the multi-fluid approach. They have to reflect the local flow phenomena. CFD-grade experiments as well as direct numerical simulations (DNS) may help to improve the understanding of these local phenomena and this to improve the closures.

We are pleased to invite global experts, scholars and researchers in the field of three-dimensional multiphase flow modeling and CFD-grade experiments to present papers and discuss topics relating to the special topic. Please remit your abstract/paper to the following suggested topics or any related subjects ASAP but not later than 15th of December 2016.

Topics include, but are not limited to:

- CFD-model development for multiphase flows, e.g. for
 - General modelling frameworks
 - Multi-scale modelling techniques
 - Phase interaction models
 - Multiphase turbulence models
 - Phase transfer models
 - Numerical Algorithms
- CFD validation for multiphase flows relevant for nuclear reactors
- Application of simulation methods to multiphase flow problems in nuclear reactor systems
- CFD-grade experimental work
- Measurement techniques for multiphase flows
- High resolved simulations as basis for the development or improvement of closure models

Paper Submission Link: <http://epsr.ans.org/meeting/?m=237>

