

Einladung zum IKET-Kolloquium

Zeit: Dienstag, 22. Januar 2013, 15.00 Uhr
Ort: Kolloquiumsraum des IKET, Campus Nord, Bau 419, Raum 104
Referent: Dr.-Ing. Abdalla Batta, Karlsruher Institut für Technologie, IKET
Titel: Choice of CFD modeling for design support

Zusammenfassung:

CFD has become a serious tool in the design of thermohydraulics system components. Numerous examples of applications for steady or transient flows in single-phase and multi-phase flows can be found. This is due to the fact that many problems cannot be reliably predicted by using traditional one-dimensional system analysis codes. In such case the CFD provides a low-cost solution compared to experiments. However, CFD results are always model-dependent. Adequate selection of the used CFD modeling can help the accuracy of the results. In general the codes contain empirical models their adequateness should be verified before their implementation. Another important modeling factor is related to boundary condition and the validity of simplifications which are needed, since simulations typically concentrate on a specific domain of interest. Reliable assessment of the CFD model requires simulations to minimize the input uncertainties to avoid incorrect conclusions being drawn. CFD applications showing the importance of the previously mentioned factors are presented including the results of two international benchmark exercises where KIT participated. Namely the WPFC Task Force on Benchmarking of Thermal-Hydraulic Loop Models for Lead Alloy-Cooled Advanced Nuclear Energy Systems (LACANES) and the OECD/NEA-MATIS-H BENCHMARK (Measurement and Analysis of Turbulent Mixing in Subchannels – Horizontal). Moreover, validation and verification examples from recent European projects DEMTRA and THINS will be presented.

gez. T. Schulenberg

Alle auswärtigen Besucher des Kolloquiums werden gebeten, ihren gültigen Personalausweis oder Reisepass mitzubringen.