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Marek Orzel

**Uncertainty analysis of thermal-hydraulics calculations
for high-temperature gas-cooled reactors**

Abstract:

Uncertainty analysis is an inherent part of each measurement and simulation procedure since it allows assessing the quality of the results and the importance of influencing factors. Thus, a measurement or simulation result is complete only when accompanied by a quantitative statement of its uncertainty. This is still a challenge for thermal-hydraulics calculations, where so many efforts have been done so far aiming at better quantification of the uncertainties. Significant progress has been made, among others, in the uncertainty determination of the geometry being modeled and Probability Density Functions (PDF) for Boundary and Initial Conditions. However, PDFs of physical model parameters such as heat transfer coefficients still need to be improved. The aim of the presentation is to explain and discuss the influence of such factors on the thermal-hydraulics calculations for high-temperature gas-cooled reactors.

Serdecznie zapraszamy,
M. Dąbrowski, T. Kwiatkowski