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Seminarium Zakładu Energetyki Jądrowej i Analiz Środowiska (UZ3) Departament Badań Układów Złożonych (DUZ)

Wtorek: **29.06.2021**
11:30

dr inż. Michał Spirzewski

The importance of uncertainty analysis - methodology and examples

Abstract:

Uncertainties of numerical predictions play important role in the nuclear reactor safety margin assessment. Many flow models and codes are used in different types of Nuclear Safety Analyses but some of them are especially important in Loss of Coolant Accidents analyses.

In this talk, Bayesian Integrated Global Uncertainty and Sensitivity Analysis methodology is presented and discussed as well as its numerous applications are shown.

Application of the global uncertainty and sensitivity methods allowed uncertainties quantification as well as ranking of uncertainties' sources.

These applications range from phenomenological dryout model through critical flow model up to hydrogen release modelling.

The results of the said methodology showed that parameters such as mass flux in dryout, hydraulic diameter for critical flow and zirconium melting temperature for hydrogen production were found to be the strongest contributors to the uncertainties.

Serdecznie zapraszamy
M. Dąbrowski, T. Kwiatkowski
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