

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

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PNT-NCBJ, sala 251 (PROTON)

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Junk in - junk out: by examples

Abstract:

The CFD engineers divide into two groups: those who read and those who believe. The first knows there is nothing certain (exact) in the final results, the others are sure it is ok as they choose proven (as they understand - default) options.

The Computational Fluid Dynamics is known as the best estimate technique for various engineering assessments also in nuclear safety aspects. Although it is a great tool that is able to provide better insight than one could extract from physical experiment even, it is also likely to yield unreliable data if poorly defined case. CFD analysis is a multi-parametric study and even the simplest case means at least 30 choices to make! The errors made while setup preparation are not necessarily independent nor just additive in the final difference from what we get from reality. One needs to take into account every choice may amplify the error in conjunction with specific options. Its mastering takes time, the learning curve is long mainly due to time spent while expecting for the very last iteration and unfortunately... there is no shortcuts.

This talk will focus on common mistakes made when preparing a case for thermal hydraulic simulation by means of CFD codes.

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