

ESFR-SMART European Workshop on Liquid Metal Thermal Hydraulics and Fuel Safety

11-14 Juni 2019, Madrid, Spanien

Thermal-hydraulics: heat transfer and pressure drop correlations in Na

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The presentation will include the following topics:

- Why are Heat Transfer (HT) and Pressure Drop (PD) correlations needed?
- How are HT/PD correlations used?
- The physical magnitudes involved in the calculation of the Heat Transfer and Pressure Drop, as well as the Non-dimensional numbers commonly used.
- Geometrical characteristics and thermal-hydraulics conditions in SFRs (cold/hot Na plena, Subassembly, inter-SA, Pin/coolant, HX-SG (coolant/coolant), etc.)
- Flow conditions (Single-phase, two-phase, In-line flow, cross flow, etc.)
- Experiments where the correlations were extracted from
- Range of validity of the correlations
- Table of Heat Transfer correlations
- Table of Pressure Drop/Friction Factor correlations
- Considerations when selecting a correlation