

Aushang

Institut für Neutronenphysik und Reaktortechnik

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Einladung zum Seminar über „Nukleare Energieerzeugung“

Zeit: Montag, 30. Juni 2025, 11:00 Uhr

Ort: Karlsruher Institut für Technologie, Hermann-von-Helmholtz-Platz 1
76344 Eggenstein-Leopoldshafen, INR, Bau 521, Raum 302

Referent: Herr Dr. Ignacio Gómez García-Toraño, CEA Saclay, Frankreich

Titel: Experimental and numerical activities on the performance of a passively cooled steam generator

Abstract:

Passive systems are being considered for advanced reactor designs because of their enhanced reliability against an extended loss of offsite power. Particularly, the Safety COndenser (SACO) stands out because of its capacity of passively removing core decay heat through the steam generators by condensing steam inside an immersed heat exchanger. This seminar will introduce the motivation of passive systems and provide a comprehensive view of the experimental and numerical results obtained at the SACO installed at the PKL integral test facility (Framatome, Erlangen) within the frame of the H2020 PASTELS project (2020-2024).

For that aim, two types of experiments will be analysed: while the parametric test P1.1 studies the influence of pool liquid level and the non-condensable gases content in the exchanger tubes, the transient test P2.1 consists of a Station Blackout scenario with partial SACO operation. Experimental results show the SACO capability to remove the decay heat from the primary side as long as there is enough water inventory in the pool. These experiments have been partially calculated in respective open and blind phases using system thermalhydraulic codes (CATHARE-3, ATHLET, TRACE, RELAP-5) and CFD codes (Neptune_cfd standalone or coupled with CATHARE). Generally, codes are able to predict the phenomena happening in PKL, although further attention should be paid to the physical modelling of film condensation, the use of advanced approaches for pool modelling.

Hinweis: Alle auswärtigen Besucher des Seminars werden gebeten, ihren gültigen Personalausweis oder Reisepass mitzubringen

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