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Aushang

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Einladung zum Seminar über „Nukleare Energieerzeugung“

Zeit: **Montag, 6. Juli 2026, 11:00 Uhr**

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

Referent: **Herr Björn Brenneis,** Karlsruher Institut für Technologie, INR

Titel: Compact Accelerator-driven Neutron Source Karlsruhe (CANSKA)

Abstract:
In future fusion reactors based on DT-fusion, in-vessel components like the breeding blanket, divertor and limiter will be subjected to extreme conditions regarding the 14 MeV neutron flux, heat and γ-radiation of the burning plasma. In particular, the breeding blanket has a key role. It dissipates the heat generated from fusion, breeds the fusion fuel tritium and serves as radiation shield. For the nuclear qualification of breeding blanket materials and components, fusion relevant neutron sources are necessary.
A prominent example is the International Fusion Materials Irradiation Facility – DEMO Oriented Neutron Source (IFMIF-DONES), which is currently under construction. The main objective of IFMIF-DONES is to provide a database for structural materials. For the qualification of breeding blankets, integrated tests of mock-ups under a relevant nuclear environment become increasingly important. This requires one or more complementary irradiation facilities. The Compact Accelerator-driven Neutron Source KArlsruhe (CANSKA) is projected to address this qualification gap. The baseline of the CANSKA project aims at a linear accelerator, accelerating protons and/or deuterons on a target producing high energy neutrons with a neutron flux density of the order of 10^{13} n/cm^2/s in the test volume immediately behind the target delivering typically 3-5 dpa within few years of high-availability operation. As such, CANSKA focuses on early irradiation effects and a pre-selection of the most attractive designs for subsequent full qualification campaigns at other facilities.
The seminar provides an overview of the concept, the scientific goals and the resulting specifications focusing on the accelerator and target.

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