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New deveopments on scintillation screens doped with boron, lithium and dysprosium

Wednesday, 26 June 2019 11:00 (20 minutes)

In collaboration with Idaho National Lab, several dozens of new scintillation screens for neutrons were tested at FRM II.
Existing mixtures with LiF were tested, but also new mixtures with boron, which were very promising on the way to higher spatial resolution in neutron imaging. A third class comprised dysprosium-doped screens which are not only more sensitive in the epithermal range for a Cd-filtered beam, but also produce an afterglow image that is so bright that a scintillation screen can be irradiated in a high gamma radiation environment (e.g. spent fuel) and then removed remote-controlled to be read out with a camera detector in a shielded containment.
By the time of the meeting, we hope to to have new measurements about the next batch of screens based on the first measurements.

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Session Classification: Science group meetings 1