



## Radioactive Dust Re-suspension/Mobilization Inside Tokamaks

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Experimental and Numerical Studies of Loss Of Vacuum Accidents inside nuclear fusion plants | A recognized safety issue for future nuclear fusion reactors fueled with deuterium and tritium is the generation of sizeable quantities of dust. Accidents like the Loss Of Vacuum Accidents (LOVA) are expected to happen in experimental fusion reactors like ITER, they may jeopardize the components and the plasma vessel integrity and cause dustresuspension/mobilization representing a risk for workers and public. The Small Tank for Aerosol Removal and DUST (STARDUST) facility, was set up (by Quantum Electronics and Plasma Physics University Research Group and ENEA Fus. Tech.) to perform experiments concerning the dust re-suspension/mobilization in a volume with the initial condition similar to those expected in ITER Vacuum Vessels. During this work LOVA events comparable to those expected in ITER were reproduced, and two-dimensional (2D) models with FLUENT were developed to get a preliminary overview of the fluid dynamics behaviors in case of accident. For validation purposes, the CFD simulation data were compared with the experimental results obtained for the same conditions. This comparison is presented and discussed to validate a first numerical re-suspension/mobilization model. | Format: Paperback |...



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