

Abstract Submitted
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Study of radiation damage in nuclear materials by positron lifetime spectroscopy IVETA BARTOŠOVÁ¹, AMINE BOUHADDANE, VLADIMÍR SLUGE, Institute of Nuclear and Physical Engineering, Slovak University of Technology in Bratislava, Ilkovičova 3, 812 19 Bratislava, Slovak Republic, DONALD WALL, Nuclear Radiation Center, PO Box 641300, Washington State University, Pullman, WA 99164-1300, USA, FARIDA SELIM, Department of Physics, Bowling Green State University, 104 Overman Hall, OH 43403, USA, INSTITUTE OF NUCLEAR AND PHYSICAL ENGINEERING, SLOVAK UNIVERSITY OF TECHNOLOGY COLLABORATION, DEPARTMENT OF PHYSICS, BOWLING GREEN STATE UNIVERSITY COLLABORATION, NUCLEAR RADIATION CENTER, WASHINGTON STATE UNIVERSITY COLLABORATION — Microstructure of four different oxide-dispersion-strengthened (ODS) steels (KAERI-A, B, C, D) with 12% chromium content was studied in term of vacancy defects presence and their accumulation due to irradiation. Radiation damage was simulated by implantation of ^2He ions via a linear accelerator at the Laboratory of ion beams of the Slovak University of Technology. A second set of samples was irradiated by neutrons in Washington State University Nuclear Radiation Center. A comparison of simulated damage by ^2He and damage dealt by real reactor environment was evaluated by positron lifetime measurements in emphasis on defect accumulation.

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