The Simplified Burnup Benchmark Based on the Novovoronezh NPP Fuel Assembly

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Abstract. The contribution assesses computational ability of the SCALE code system, corresponding nuclear data and user skills to specify nuclide concentration of irradiated fuel assembly in VVER-440 nuclear reactor. Experimental data of nuclide composition of fuel from Novovoronezh Nuclear Power Plant (NPP) and irradiated fuel assembly are compared to data computed by the TRITON sequence. Samples of our interest are taken from fuel assembly with enrichment of 3.6 w % of U-235. Samples were irradiated during four fuel cycles in total time 1109 days and following cooling period took from 1 to 12 years. Computed nuclide concentrations of irradiated fuel are compared with experimental data burdened with the measurement uncertainty. Comparison of computed and experimental values is shown by graphical output and brief discussion of results is provided.