



## OECD/NEA Deterministic Time-Dependent Neutron Transport Benchmark without Spatial Homogenization (C5G7-TD) – Second Workshop (C5G7-TD-2)

Erlangen, Germany

May 10 – May 12, 2017

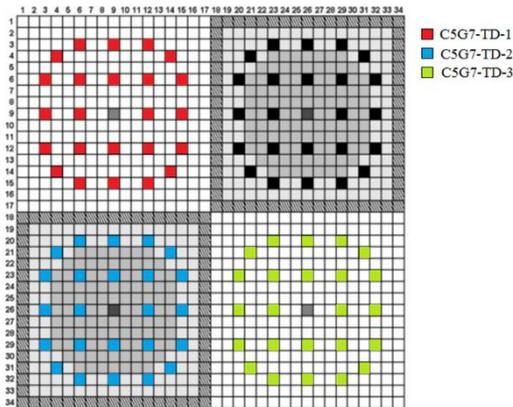
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The 2<sup>nd</sup> workshop for the OECD/NEA Deterministic Time-Dependent Neutron Transport Benchmark without Spatial Homogenization (C5G7-TD) – C5G7-TD-2 be held in conjunction with other meetings (in the same week), in order to facilitate co-ordination and sharing of work. The meetings concerned are:

- May 8-9, 2017 – Third OECD/NEA Sodium Fast Reactor (SFR) Uncertainty Analysis in Modelling (UAM) benchmark workshop (SFR-UAM-3);
- May 8-9, 2017 - Fourth COBRA-TF (CTF) User’s Group (UG) Meeting (CTF-4);
- May 10-12, 2017 – Eleventh OECD/NEA Light Water Reactor (LWR) Uncertainty Analysis in Modelling (UAM) benchmark workshop (LWR-UAM-11);
- May 10 – May 11 (morning), 2017– AER Working Group D meeting (VVER dynamics and safety);
- May 11(afternoon) – May 12, 2017 - Second OECD/NEA C5G7 Time-Dependent (TD) Neutron Transport benchmark workshop (C5G7-TD-2).

A common registration webpage will be made available for the participants of SFR-UAM-3, CTF-4, LWR-UAM-11, AER-D, and C5G7-TD-2 workshops by the OECD/NEA. The OECD/NEA C5G7-TD Benchmark is a Time-Dependent Neutron Transport Benchmark without Spatial Homogenization benchmark – C5G7-TD. The current



benchmark model is based on the well-established steady-state C5G7 benchmark problems. It is a miniature light water reactor (LWR) with sixteen fuel assemblies (mini-core): eight uranium oxide (UO<sub>2</sub>) assemblies and eight mixed oxide (MOX) assemblies, surrounded by a water reflector. There are two sets of exercises considered in this problem. The first set, including 3 exercises, is focused on the 2-D configuration of the C5G7 core. The second set, including 2 exercises, is with regard to the 3-D C5G7 configuration. Draft specification document entitled “Deterministic Time-Dependent Neutron Transport Benchmark without Spatial Homogenization (C5G7-TD)” has been prepared and distributed for comments and corrections. The detailed perturbation law of each exercise is described in the specification.

Accurate multi-group Monte Carlo reference solutions will be obtained for all configurations. The C5G7-TD benchmark is carried out in 3 phases as follows:

- a) Phase I: Kinetics Phase – verification of methods/codes for heterogeneous time-dependent neutron transport calculations without feedback;
- b) Phase II: Dynamics Phase – verification of methods/codes for heterogeneous time-dependent neutron transport calculations with feedback;
- c) Phase III: High-fidelity Phase – uncertainty propagation in high-fidelity multi-physics calculations.

The benchmark is currently within the framework of Phase I. If you are interested to participate in the OECD/NEA C5G7-TD Benchmark please contact Jason Hou ([jason.hou@ncsu.edu](mailto:jason.hou@ncsu.edu)).

The C5G7-TD-2 workshop will involve all interested participants with objective to discuss in depth in depth of the benchmark specifications, templates for submission of participants’ results, reference solutions, and proposed work plan and time schedule for the OECD/NEA C5G7-TD benchmark activities. The information for the C5G7-TD-2 workshop local organization (including hotels) is provided at the following web-site:

<https://www.ncsu.edu/rdfmg/research/current-research/>