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**Seminarium Zakładu Energetyki Jądrowej i Analiz Środowiska (UZ3)**

**Departament Badań Układów Złożonych (DUZ)**

Wtorek: **18.05.2021**

**11:30**

**dr inż. Jim C. Kuijper**

**NUCLIC – Nuclear Innovation Consultancy**

**GEMINI+ HTGR** **Neutronics**

**Abstract**:

Literally at the heart of the Euratom Horizon 2020 project GEMINI+ are the core neutronics (design) calculations. For these calculations on a relatively small (180 MWth) prismatic HTGR with cylindrical core, the 3-D monte-carlo particle transport and depletion code SERPENT version 2 (VTT, Finland) was selected, the main reasons being the flexibility and versatility of this code, which enabled the modelling of all relevant details of the reactor without unnecessary approximations. The presentation gives an overview of the performed neutronics analyses for the current/latest (June 2020) design of the GEMINI+ HTGR, and results thereof. Neutronics features seem quite promising, but further improvements and therefore further investigations would be desirable.

Serdecznie zapraszamy

M. Dąbrowski, T. Kwiatkowski

<http://www.phd4gen.pl>