Primary Design of a Neutron Activation System for a DD Neutron Generator at STU Bratislava

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Abstract. This paper presents an overview of the proposed neutron activation system for use with a newly acquired deuterium-deuterium (DD) neutron generator at STU. The system is optimised for both prompt and delayed neutron activation analysis, with simulations carried out using the Monaco Monte Carlo code within the ORNL SCALE package. The initial design of the collimator and the overall system layout are introduced, providing a foundation for future development and experimental validation.