

# Calculation of Accelerator-Based Neutron Source Anisotropy Using SCALE6 System

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**Abstract.** This paper presents a developed definition of the accelerator-based neutron source that simulates neutron anisotropy of the tandem accelerator in SAV Piešťany using the SCALE6 system developed by Oak Ridge National Laboratory. Anisotropy provides the yield and energetic distribution of the neutrons around a set direction. The developed neutron source definition incorporates specifications for the Tandetron's energy distribution and directional distribution using precalculated theoretical values of anisotropy calculated by the DROSG-2000 program. The developed neutron source specification will find application in many fields, such as optimization of activities connected to the Tandetron, R&D activities, detector calibrations, safety calculations, neutron activation analyses, non-destructive neutron defectoscopy and neutron radiography.