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## Modeling and Simulation of a new collimator used in the nuclear techniques

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**Abstract:** The collimator is the most important part in the installation of the Prompt Gamma Activation Analysis technique (PGAA). This technique will be installed in the Moroccan TRIGA MARK II research reactor. The main purpose of this work is using the Monte Carlo simulation via the MCNP5 code to design the new collimator of the prompt gammas installation, to determine the optimal thickness of the bismuth (Bi) filter for gamma radiation. The obtained results of the collimator design and its filter are analyzed and discussed. **Keywords**: Collimator; PGAA technique; NAA technique; TRIGA Research Reactor; MCNP code.

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