Simulation of the Nebula detector using Geant4

First presentation

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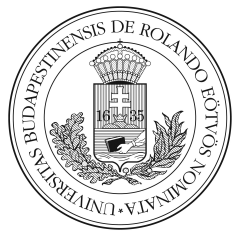
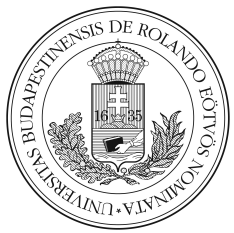


Project description

- Simulating the environment of the NEBULA (**NE**utron Detection System for **B**reakup of **U**nstable Nuclei with **L**arge **A**cceptance) detector
  - Constructing the detector geometry
  - Creating neutron beam runs
  - Analyse results and observe, what happens during this event
  - (Optional) Visualize the event in the detector
- Wide variety of software usage
  - Geant4
  - ROOT
  - smsimulator
  - ⋮



NEBULA detector

NEutron Detection System for **B**reakup of **U**nstable Nuclei with **L**arge **A**cceptance

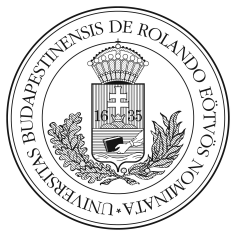
Detector geometry

- Designed to detect fast neutrons at 100-300 MeV
- Consist of 4 bigger blocks
- Each block consist of 60, BC-408 plastic scintillator rods

Theoretical considerations

Goals and achievements so far

- ✓ Installing and setup Geant4 and other softwares and libraries needed
- ✓ Testing the configuration by running the examples provided in the Geant4 install
- ≈ Implementing the NEBULA detector geometry in Geant4
- × Create neutron beam runs and analyse what's happening



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- The topic is very far from my thesis/research and everyday work, but I'll try my best :)