

Optimization of the geometry of inorganic scintillators applied to high energy physics

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Scintillators have numerous applications in fundamental research and in for commercial use, including being a common detector for particle physics experiments and the basis for many nuclear medicine instruments. It is a quasi-universal requirement that the light detected in scintillator setups be maximised. Inorganic scintillators will be optimized and characterized by the simulation of several types (PWO_4 , ZnWO_4 , CaWO_4 , CdWO_4 , BGO and LSO) and different geometries (cylinder and parallelepiped) of scintillators. This simulation will be analyzed in GEANT4 (Geometry ANdTracking), a platform to simulate the passage of particles through matter of photons. Geant4 (GEometry ANd Tracking)