

Review of Open Problem Reports

Geometry WG

Transportation

- [#2047](#)

- *The particles stop in world volume by G4UserSpecialCuts process without depositing their kinetic energy*
- Particles by a special cuts process are stopped, when a particle kinetic energy goes beyond the energy limit (as in G4UserLimits), without depositing the remaining kinetic energy. This happens when the special cuts process is invoked in the world volume. A patch is provided reproducing the problem with the basic B4a example

- [#2063](#)

- *Transportation is prematurely killing charged particles expected to travel a long distance in the field*
- Transportation process is killing high energy charged particles with a long expected physical step in the field when the default number of integration steps reach its limit. Asked to review default thresholds and improve diagnostics. First implementation and new thresholds included in 10.5-beta

Magnetic field

- [#1969](#)
 - *Particle polarization lost in G4PropagatorInField*
 - Observed a problem when propagating muons in magnetic fields; the muon polarization gets reset to zero. User has provided a patch which is however not valid as it would break those cases which do use the propagation of the polarisation in the magnetic field; i.e. want to have the polarisation propagated, but not integrated. New use case which was not considered
- [#2051](#)
 - *Inconsistency on RX generation by using electric field*
 - User reports strange results like alteration of the shape of the expected photons spectra and different number of electrons reaching a beryllium window when using electric field. Attached source code with two different geometry setups. User code problem?