
Subject: Re: Group velocity for Cherenkov photon propagation in G3/G4
Posted by [Stefano Spataro](#) on Wed, 26 Jan 2011 13:37:36 GMT

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Hi,

if I remember well in geant4 of jan10 external packages there is a bug in Cherenkov propagation. In this case it would be better to use geant3; I am not sure if the trunk version of the external packages has already this correction.

As a check, maybe you could do a check using a simplified geometry:

a) In the media definition you switch off somehow reflection, so that the photon exits from the quartz (if I remember well at the beginning Annalisa's photons were not reflected because reflection was off)

b) you shoot the particle at 90° with respect to the rod, without any materials before and check only the exiting point.

In this case you avoid to have reflections making the calculation harder. Maybe you could use only a single quartz rod and enlarge it.

Just trying to guess...
