Subject: Re: Group velocity for Cherenkov photon propagation in G3/G4
Posted by Oliver Merle on Fri, 28 Jan 2011 18:04:34 GMT
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I checked the group velocity upstream in Geant4 and everything seems to be correct.

Method:
Create photons of different wavelength in a fused silica radiator (manually, not via the Cherenkov process). Export velocity of G4OpticalPhotons and a computed group velocity (using an approximation of n_g = n_p - lambda* dn/dlambda)

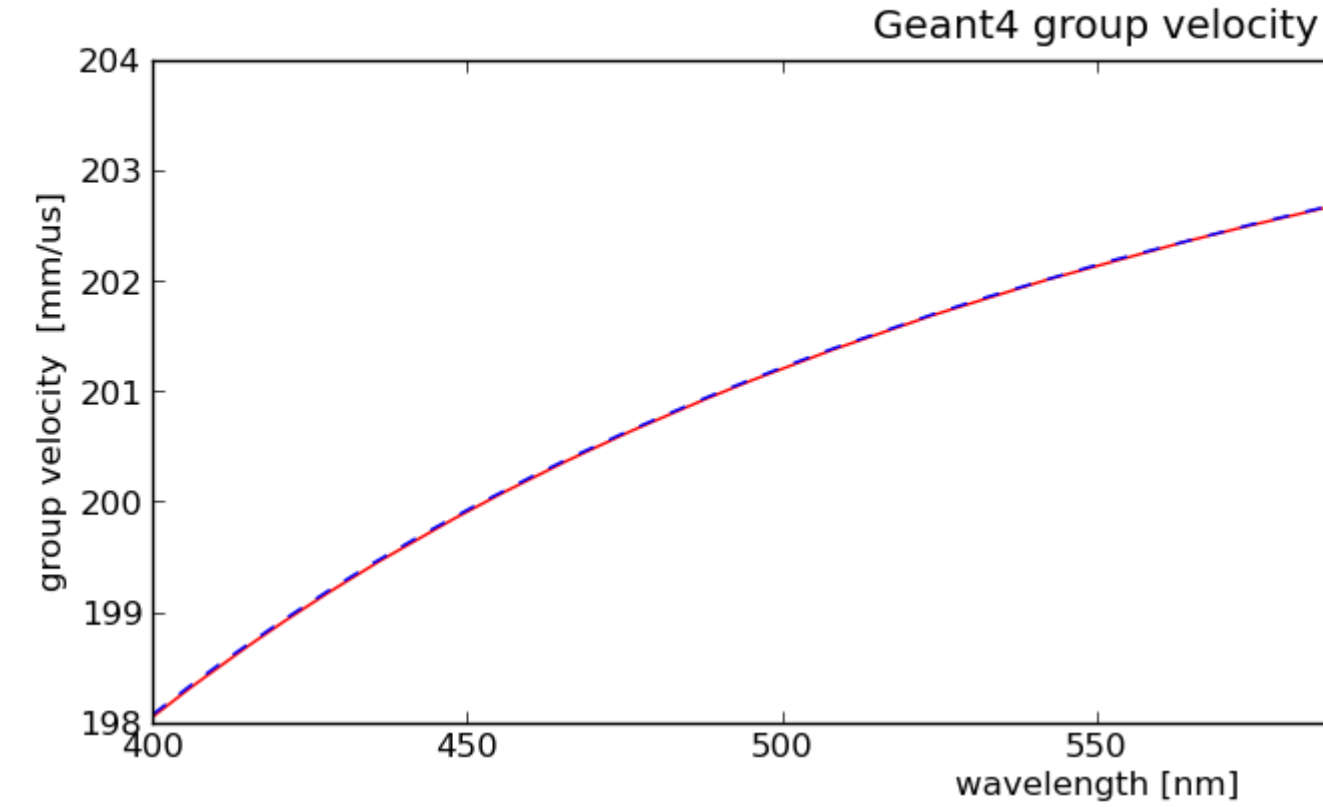
Result:
Attached

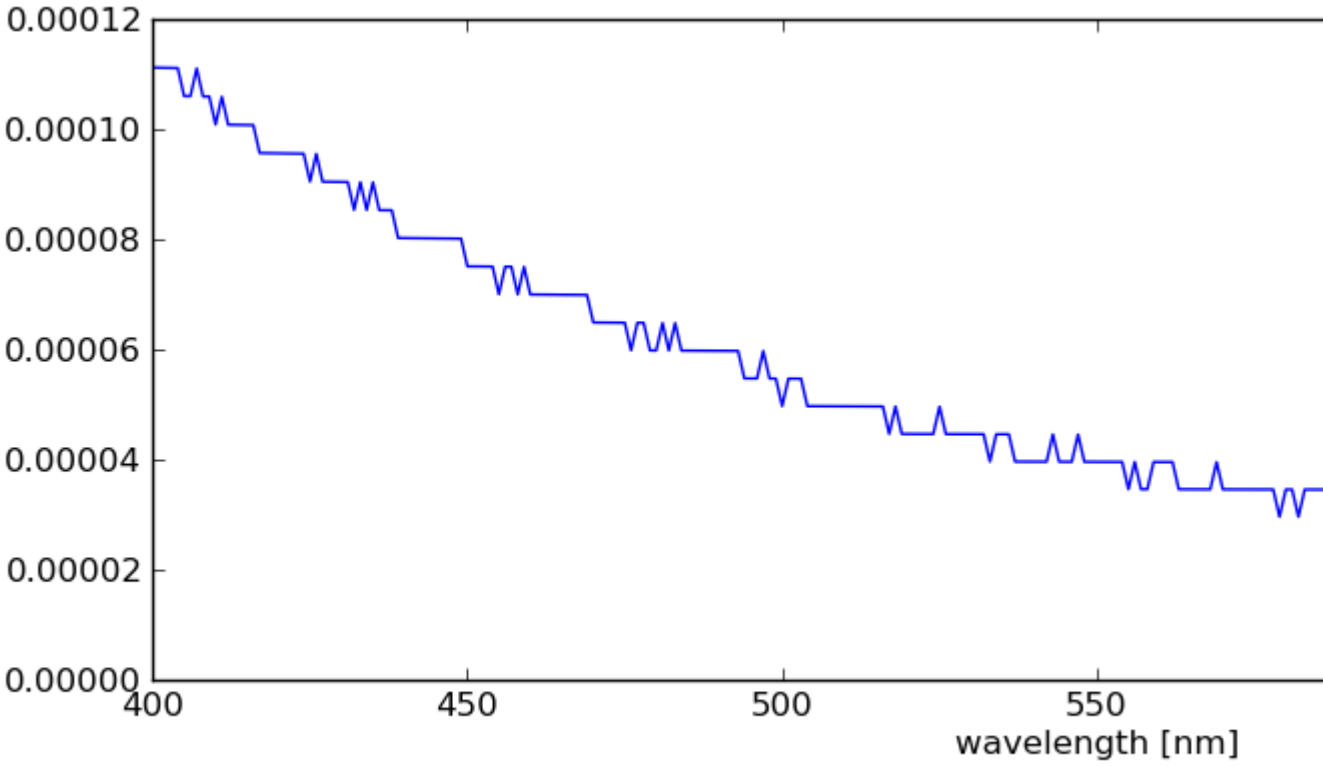
If a bug exists, it is most likely related to wrong material property maps.

Oliver

File Attachments

1) Geant4-GroupVelocity.png, downloaded 1159 times





2) wl_vs_vg.txt, downloaded 541 times