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Subject: Re: Group velocity for Cherenkov photon propagation in G3/G4  
Posted by [Jochen Schwiening](#) on Mon, 11 Apr 2011 13:25:24 GMT

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Dear all,

just a follow-up to the still unresolved question of group velocity for optical photons in G3/G4 in pandaroot.

I found a bug in my code where I calculated the photon energy (a Y was swapped for a Z due to German/Intl keyboard confusion) which caused the large scatter observed in previous plots.

When the bug is removed the points all line up nicely on a line as can be seen in the attached plot.

The very good news is that the Geant 4 points are now pretty much right on top of my theory line (apart from a very small remaining scatter, probably due to some very short photon path segments caused by the photon exiting and re-entering the bar during each internal reflection).

The not so good news is that the Geant 3 points are still far away from theory and G4.

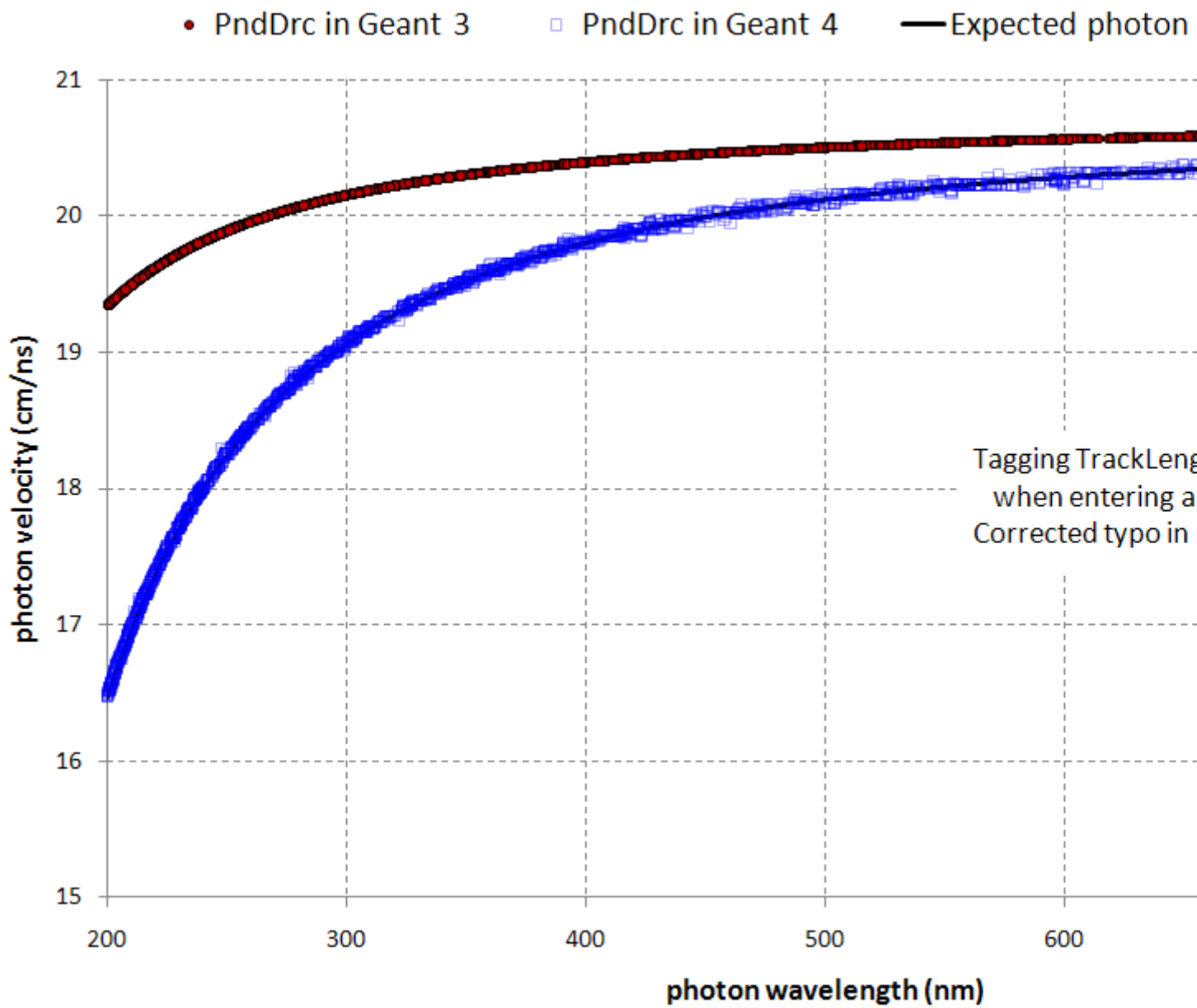
Any ideas?

Cheers,  
Jochen

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## File Attachments

1) [group\\_velo\\_geant\\_vmc\\_apr\\_2011.png](#), downloaded 727 times



Tagging TrackLength  
when entering a  
Corrected typo in