## Dear all,

I was wondering if there's an easy way to generate particles along a unit 3-vector. As I noticed, the box generator in emc_complete.c doesn't do this. Apparently, it draws a random number within the specified ranges of theta and phi. What I need is something like G4RandomDirection function. I hit the problem when I roughly calculated the solid angle coverage of the full EMC to be about $92 \%$. Whereas, the efficiency calculation using the box generator gives me something around $85 \%$ which indicates a bigger probability for particle generation at the poles (entrance and exit holes of the EMC)! Am I missing something here or there is other alternative to the box generator?

Best regards

# Subject: Re: Uniform particle generation in solid angle Posted by Dima Melnychuk on Mon, 18 Apr 2011 09:53:08 GMT <br> View Forum Message <> Reply to Message 

Hi Hossein,
I suppose you should use the option
boxGen->SetCosTheta();
in box generator to have particles uniformly distributed in solid angle.
See the following post for details:
http://forum.gsi.de/index.php?t=tree\&th=1318\&start=0\&rid=78\&
amp;S=2fcdba1e0ae8f392cb61ca826979c23a\#page_top
Dima

Subject: Re: Uniform particle generation in solid angle Posted by HosseinMoeini on Mon, 18 Apr 2011 12:10:39 GMT
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Hi Dima,
Many thanks to you
Hossein

