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Subject: Uniform particle generation in solid angle

Posted by [HosseinMoeini](#) on Mon, 18 Apr 2011 07:07:16 GMT

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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

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