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Subject: Fieldmaps for the half current solenoid

Posted by [Prometeusz Jasinski](#) on Tue, 09 Jul 2013 10:54:37 GMT

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Again, I spam both, the ticket system and forum.

<https://subversion.gsi.de/trac/fairroot/ticket/103>

As one should know, solenoid current will be reduced by a factor of 2 for beam energies below injection momentum what is about 3 GeV. I got toscan fem field maps from Jost Luehning and translated those with my own program into panda root compatible field maps:

[http://www.staff.uni-mainz.de/jasinsk/temp/solenoid\\_hc.tar.gz](http://www.staff.uni-mainz.de/jasinsk/temp/solenoid_hc.tar.gz)

The problem is pandaroot foresees only one solenoid field for all momenta. To my mind it should be done, like for Dipole maps. In addition we would need maps with half current for 1.5 GeV and 3 GeV and then maps for, let's say 3.1 GeV with full current. Otherwise pandaroot would try to interpolate between the lowest two maps for intermediate momentum settings for the solenoid as well, isn't it so?

I hope this isn't a big issue.

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For the sake of completeness:

Here are the fieldmaps by Jost Luehning. Thanks for the work!

[http://web-docs.gsi.de/~luehning/Maps\\_1301.rar](http://web-docs.gsi.de/~luehning/Maps_1301.rar)

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One possible workaround:

I have created two folders in my <pandaroot>/input directory:

solenoid\_hc

solenoid\_fc

I have put to both half and full current fieldmaps and linked to the input folder what I needed

In -sf solenoid\_hc/\* ./

But this is for sure only a workaround

Cheers Promme

PS: I tested the fieldmaps only for 100 events that should reach the luminosity monitor. So please inform me if you find something strange.

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