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Subject: Re: Panda Magnet Field Map

Posted by [Mohammad Al-Turany](#) on Fri, 27 Nov 2009 13:29:26 GMT

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Hi,

Quote:What is the standard tool for designing of magnet structure?

It is called TOSCA

Quote:And are all those different Maps predefined in somewhere or is there some accessing process to get the field intensity via FullSolenoid.root and dipole.geo in the panda/field/\*. How is this worked?

These two files are the geometry definition of the magnet, the field maps are defined in the DipoleMap, TransMap and SolenoidMap (in your example, and by the way this is the old stuff look to the new macros there is more regions, and for different beam energies ).

see

[http://forum.gsi.de/index.php?t=msg&goto=7949&rid=93&S=8a415fbc32c8b125305ad77d67d51b4e&srch=beammom#msg\\_7949](http://forum.gsi.de/index.php?t=msg&goto=7949&rid=93&S=8a415fbc32c8b125305ad77d67d51b4e&srch=beammom#msg_7949)

for more info.

Quote:I assumed that solenoid field and dipole field in present setup doesn't overlap because they are located at some distance, or there is a duplication between them, and can be described by TransMap.

I do not understand what you mean with this! any way below I try to explain you how it is done.

Quote:Let's imagine, if dipole magnet move into very close to the solenoid magnet, then the magnet would be overlaped. In this case, independent definition of field map from solenoid and dipole could not described overlapping region. How can I handle it?

you can handle this if you re-simulate the whole magnet in TOSCA again. The maps we have here where simulated using TOSCA and the whole magnets where done at once to account for the overlap region between the two iron yokes (Done by Jost Luehning). from this simulation we export the different regions according t the change in the maps to optimize for performance (i.e step size is dependent on the variation of the field). Any way Why do you need to change the position of the dipole? what should this be good for?

In the macro/run directory there is a macro "PandaField.C" which show you how to read the fields, and get field value somewhere at a some point.

regards

Mohammad

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