Subject: Materials and radiation lengths in pandaroot
Posted by Ralf Kliemt on Fri, 19 Sep 2008 11:42:28 GMT
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Hello everybody,

I am looking into the materials definitions in pandaroot. All materials are assigned by name inside the .root or .geo geometry files to the volumes. Then pandaroot takes the materials definition file (default is pandaroot/geometry/materials_pnd.geo) and assigns all material properties from there, no matter what you assigned before.
This is okay if you think of e.g. that all silicon or all steel parts shall be similar and not infected by some stupid mistake overwriting one parts material with wrong numbers.
However the framework calculates the radiation length by itself, in contrast to the description on the fairroot website. In the pandaroot case we even have to not give the radlen parameter.

I would like to be able to give a measured radiation length parameter to a self defined material, i.e. the carbon foam at the MVD. It is a unknown mixture of carbon, air and some artificial stuff. So the effective Z and A are unknown, but macroscopic values, like the density and radiation length were measured.

Any ideas and solutions on this?
Does Geant use Z and A or the radiation length for the transport? Maybe both?

Kind regards, Ralf.