
Subject: Re: Implementing Software Alignment into PandaROOT

Posted by [Stefan Pflueger](#) on Fri, 03 Nov 2017 14:37:04 GMT

[View Forum Message](#) <> [Reply to Message](#)

Hello everyone,

Roman and me have done some research and as far as we can understand, the alignment should be handled within the geometry. The difference between data taking of panda and the simulation world are the steps simulation and digitization. After that all other macros/steps are identical for the simulated data and panda data reconstruction.

IMPORTANT: In order to study misalignment TWO geometries are needed! The simulation and digitization steps use one geometry. And a second geometry is used in the further track reconstruction. This geometry is the only one needed later on, but should not necessarily be the same as the first geometry. And this second geometry should be determined from the design geometry and corrections that come from the alignment procedures ($[\text{design geometry}] * [\text{alignment correction matrices}] = [\text{simulation/data geometry}]$)!

Now we have a question: Did anyone try or plan for this already or which is the correct way to handle all this? Because in the whole reconstruction chain the geometry is usually just generated once in the simulation step, then saved in a parameter root file. The other macros then read in this parameter file and use it to initialize the RTDB of FairRoot. Consequently the geometry used for the simulation is available again, which is exactly the behaviour we do NOT want for alignment studies!

So our idea would be to NOT read in the parameter file in the macros after the digitization step and just initialize the RTDB with another geometry. Is that correct or possible? Has anyone tried this before?

Thanks in advance!

Stefan
