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Tracking and Alignment Activities List

This page is listing the activities taken on by the tracking and alignment group. It is a placeholder to help the tracking convener to follow-up on the status of each study.

If you wish to contribute look for the page with the Open Tasks.

Ongoing

Tracking

Momentum Error Calibration

Description	The error on track momentum is calibrated using $J/\psi \rightarrow \mu^+\mu^-$
People/groups currently involved	Christian Voss (Rostock)
Started on	1/4/2012
Deadline	31/3/2013
Status	2011data-Reco12 deployed, 2012data-Reco14 almost finished
Talks	19/4/2012 ↗ 4/10/2012 ↗ 22/10/2012 (A&SW) ↗ 6/12/2012 ↗ 20/12/2012 ↗ 11/04/2013 ↗ 15/04/2013 (A&SW, tracking report) ↗ 17/04/2013 (A&SW, tutorial) ↗
Other comments	Can be used in the momentum calibration tool

Momentum Calibration

Description	The momentum scale is corrected by mean of a calibration using kaon tracks from $B^+ \rightarrow J/\psi K^+$
People/groups currently involved	Matthew Needham (Edinburgh)
Started on	1/1/2012
Deadline	31/3/2013
Status	Completed 2011 Reco12, 2012 Reco14. well advanced: 2011 Reco14
Talks	2/8/2012 ↗ 9/10/2012 ↗ 04/04/2013 ↗ 11/04/2013 ↗ 15/04/2013 (A&SW, tracking report) ↗ 17/04/2013 (A&SW, tutorial) ↗
Other comments	Can be used in the momentum calibration tool

Tracking Asymmetries in Minimum Bias Events

Description	Study the Minimum Bias events searching for tracking asymmetries.
People/groups currently involved	Patrick Koppenburg (Nikhef)
Started on	7/3/2013
Deadline	31/12/2013
Status	Advanced.
Talks	7/3/2013 ↗ 4/4/2013 ↗ 2/5/2013 ↗
Other comments	Charge asymmetry observed in minimum bias data. Effect largely reduced to <1% once applying PID requirements.

Contribution of TT to chi2

Description	Studies on the track fit
People/groups currently involved	Wouter Hulsbergen (Nikhef), Paul Seyfert (Heidelberg), Adam Davis (Cincinnati)
Started on	1/7/2012
Deadline	31/12/2013
Status	Ongoing
Talks	7/6/2012 ↗ 12/7/2012 ↗ 5/12/2013 ↗
Other comments	Problem shown, but not completely understood. May affect Alignment.

Energy Loss Correction in MC12

Description	Study the momentum pull to extract the optimal energy loss correction in MC12.
People/groups currently involved	Miriam Hess, Christian Voss (Rostock), Maurizio Martinelli (Nikhef)
Started on	1/2/2013
Deadline	1/6/2014
Status	Advanced. Found a difference in MS treatment between GEANT and TrackFit
Talks	7/2/2013 ↗ 13/6/2013 ↗ 5/12/2013 ↗ 3/4/2014 ↗
Other comments	

Beam Angles and Tracks Distribution

Description	The beam angle affects the distribution of tracks in
People/groups currently involved	Markward Britsch (MPI Heidelberg), Ronan Wallace (UC Dublin), Burkhard Schmidt (CERN), Mika Vesterinen (Uni Heidelberg)
Started on	1/1/2013
Deadline	31/12/2013
Status	Understood
Talks	4/4/2013 ↗ 13/6/2013 (D0 KSKS) ↗ 23/1/2014 (Z production) ↗ 23/1/2014 (effective angles) ↗
Other comments	Observed in the D0 KSKS and Z production analysis. A note is in development and will be added soon.

Alignment**Alignment for 2010 data**

Description	Align the detector for calibrating 2010 data.
People/groups currently involved	Maurizio Martinelli (Nikhef), Silvia Borghi (Manchester)
Started on	1/10/2013
Deadline	1/12/2013
Status	Looking for input samples
Talks	
Other comments	

Alignment changes with magnet polarity

Description	Align the detector for different polarities and detailed study of the alignment.
People/groups currently involved	Varvara Batozskaya, Konrad Klimaszewski (Warsaw)
Started on	1/10/2013
Deadline	1/6/2014
Status	Getting acquainted with alignment software
Talks	5/12/2013 ↗ 23/1/2014 ↗ 20/02/2014 ↗ 20/03/2014 ↗ 24/04/2014 ↗ 15/05/2014 ↗ 26/6/2014 ↗ 23/10/2014 ↗ 11/12/2014 ↗
Other comments	

Velo Alignment

Description	Improve alignment of the Velo.
People/groups currently involved	Dermot Moran, Christoph Hombach, Silvia Borghi (Manchester)
Started on	1/1/2013
Deadline	1/6/2014
Status	Preliminar studies. Looking what should be fixed and how to do that.
Talks	7/2/2013 ↗ 5/12/2013 ↗
Other comments	Silvia is on leave, but is available to help Dermot and Christoph who are in the mean time responsible.

Monitoring Alignment Database

Description	Create a monitor for the alignment from a database point of view.
People/groups currently involved	Jason Emory Andrews (Maryland)
Started on	1/1/2013
Deadline	1/6/2014
Status	Tool in place. Awaiting documentation
Talks	14/2/2013 ↗ 11/4/2013 ↗ 24/10/2013 ↗ 5/12/2013 ↗
Other comments	This task is targeting to having a monitoring that could run online after LS1.

Monitoring Mass Plots

Description	Create a monitor for the alignment from a mass resonances point of view.
People/groups currently involved	Jack Timpson Wimberley (Maryland)
Started on	1/1/2013
Deadline	1/6/2014
Status	Tool is getting shape.
Talks	14/2/2013 ↗ 11/4/2013 ↗ 25/4/2013 ↗ 24/10/2013 ↗ 5/12/2013 ↗ 9/1/2014 ↗
Other comments	This task is targeting to having a monitoring that could run online after LS1.

OT Mono-Layer Alignment

Description	Alignment of the OT mono-layer.
People/groups currently involved	Lucia Grillo (Heidelberg), Francesco Dettori (Nikhef)
Started on	1/1/2013
Deadline	1/6/2014
Status	Alignment presented. Awaiting documentation.

Talks	2/5/2013 ↗
Other comments	This tool aligns the OT mono layers.

Tracker Efficiency for Online Monitoring

Description	Study the Silicon trackers reconstruction efficiency to spot problems online.
People/groups currently involved	Frederic Dupertuis, Ila Komarov (EPFL)
Started on	1/1/2013
Deadline	1/6/2014
Status	Tool in place. Need to choose the best input.
Talks	2/5/2013 ↗
Other comments	This tool can be used Online to monitor the Silicon tracking stations.

Completed

Tracking

Tracking Efficiency for 2012

Description	Tracking efficiency for Long tracks is evaluated comparing Data and MC samples.
People/groups currently involved	Paul Seyfert, Michel de Cian, Andreas Jaeger (Heidelberg)
Started on	1/1/2013
Deadline	30/6/2013
Status	Completed
Talks	11/04/2013 ↗
Other comments	Done.

Refitting Tracks in uDST

Description	A Tool to refit tracks from particles stored in uDST
People/groups currently involved	Paul Seyfert (Heidelberg)
Started on	11/10/2012
Deadline	31/3/2013
Status	Completed
Talks	11/10/2012 ↗
Other comments	DaVinci with all necessary fixes released. user code in Phys/DaVinciTrackRefitting/options/candidate_track_refitting_example.py

KS Reconstruction

Description	Many people studied the KS reconstruction
People/groups currently involved	Wouter Hulsbergen (Nikhef), Paul Seyfert (Heidelberg)
Started on	1/7/2012
Completed	31/12/2012
Status	Understood
Talks	Wouter: 12/7/2012 ↗ Fix 1/11/2012 ↗ Paul: 2/8/2012 ↗ 9/8/2012 ↗
Other comments	Completed, fix implemented in DaVinci, works for DTF only though.

Alignment

Alignment for 2013 data

Description	Align the detector for calibrate 2013 data.
People/groups currently involved	Maurizio Martinelli (Nikhef)
Started on	1/2/2013
Deadline	10/3/2013
Status	Alignment done and validated
Talks	

| Other comments | Tracker alignment is done. No need to update Velo alignment. |

This topic: LHCb > TrackingActivitiesList

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