

Table of Contents

InDet Tracking Performance: CSC and Back-up Notes.....	1
Introduction.....	2
Versions.....	2
Author list.....	2
Back-up Notes.....	2
Outline.....	3
Track Finding Efficiencies & Track Parameter Resolution.....	3
Efficiencies, Single Particles - Andi.....	3
Efficiencies, Low pT - Will.....	3
Efficiencies, in Jets - Laurent & Jean-Baptiste.....	3
Track Param resolutions - Andi.....	3
Charge Misidentification - Andi.....	3
Vertexing.....	4
Primary Vertex - Giacinto.....	4
Taus - Christoph.....	4
J/psi - Darren.....	4
K0 - Eva.....	4
Electrons & Photons.....	4
Energy Loss - Jason.....	4
Conversions - Grant.....	5
TRT Identification - Troels.....	5
Brem Recovery - Jason & Vato.....	5
Conversions - Hongbo & Thomas.....	5

InDet Tracking Performance: CSC and Back-up Notes

Introduction

Having written a section for the Detector Paper, we need to provide some back-up:

1. A CSC Note which provides more information which we couldn't fit into the Detector Paper.
2. Back-up Notes which document how we produced the Detector Paper info.

Will be coordinated by Stephen.

- 20-30 pages - to be included in a book of all CSC Notes.
- Public (Journal of Physics G) - so no details.
- Complete by mid-Feb.
- Separate from InDet Alignment.

This will build directly on the Detector Paper and additions will be made.

- Draft 2 - 14 Mar 2008
- Draft 1 - 15 Feb 2008

Versions

B-tagging: 13.0.40 with 1% Pix InEff (Note B-tagging section of Det Paper and corresponding CSC Note done with 5%).

Author list

Will Bell, Eva Bouhova, Mauro Donega, Markus Elsing, Daniel Froidevaux, Grant Gorfine, Stephen Haywood, Vato Kartvelishvili, Thomas Koffas, Jason Lee, Giacinto Piacquadio, Troels Petersen, Darren Price, Christoph Ruwiedel, Andi Salzburger, Laurent Vacavant, Jean-Baptiste de Vivie, Hongbo Zhu.

Back-up Notes

Three notes on:

1. Track Finding Efficiencies & Track Parameter Resolution - proposed editor: Andi S
 2. Vertexing - proposed editor: Eva
 3. Electrons & Photons - proposed editor: Jason
- Explain how plots/numbers were obtained for Detector Paper.
 - ◆ Cuts
 - ◆ Code & Versions
 - Internal notes, hence can be fairly bullety and brief.
 - Explain difference between Rel 12 and Rel 13, and ideally should look ahead to Rel 14.
 - Complete by end of March.

Outline

The CSC Note will be a superset of the contents of the Detector Paper.
The Back-up Notes will be a superset of the contents of the CSC Note.

Track Finding Efficiencies & Track Parameter Resolution

Efficiencies, Single Particles - Andi

Det Paper Eff vs Eta, different particles, $p_T=5$
Det Paper Eff vs Eta, different p_T , pions
CSC Eff vs Eta, different particles, $p_T=1$
CSC Eff vs Eta, different particles, $p_T=100$
Back-up Effect of Track Quality Cuts on Pions ?
Back-up Pulls

Efficiencies, Low p_T - Will

CSC Eff vs p_T
CSC Eff vs Eta

Efficiencies, in Jets - Laurent & Jean-Baptiste

Det Paper Eff vs Eta
Det Paper Eff vs p_T
CSC ?
Back-up Effect Pixel Digi

Track Param resolutions - Andi

Det Paper Sig(p_T) vs Eta
Det Paper $p_X(p_T)$ vs Eta
Det Paper Sig(d_0) vs Eta
Det Paper $p_X(d_0)$ vs Eta
Det Paper Sig(z_0) vs Eta
Det Paper $p_X(z_0)$ vs Eta
CSC Delta(p_T) histogram for Muons & Pions
CSC Delta(d_0) histogram for Muons & Pions
CSC Effect of beam-spot
Back-up Effect of Pixel Digi
Back-up Effect of different Releases
Back-up Effect of Rms vs Fit
Back-up Effect of Track Quality Cuts

Charge Misidentification - Andi

Det Paper Prob vs p_T

Det Paper Prob vs Eta

CSC Delta(pT) histogram (log-scale) for Muons and Electrons - low pT; high pT and high eta

Back-up ?

Vertexing

Primary Vertex - Giacinto

Det Paper Delta(x)

Det Paper Delta(z)

CSC ?

Back-up ?

Taus - Christoph

Det Paper Res vs Eta

CSC Delta(R) histogram

Back-up ?

J/psi - Darren

Det Paper Res vs Eta

CSC Delta(R) histogram

Back-up ?

K0 - Eva

Det Paper Sig(R) vs R

Det Paper Sig(M) vs R

CSC Delta(R) histogram

CSC Delta(M) histogram

CSC Eff vs R

CSC Eff vs Eta

Back-up V0Fitter

Back-up Chisq

Electrons & Photons

Energy Loss - Jason

Det Paper Loss vs Eta

CSC Loss vs Eta, for different pT

Back-up ?

Conversions - Grant

Det Paper Prob vs R

CSC Prob vs R, for different pT

Back-up ?

TRT Identification - Troels

Det Paper Threshold curve

Det Paper CTB Rejection vs E

Det Paper Atlas Rejection vs Eta

CSC Atlas Rejection vs Eta, different pT

CSC Atlas Rejection vs Eta, different Electron Eff

Back-up ?

Brem Recovery - Jason & Vato

Det Paper p/p, End-cap

Det Paper J/psi

CSC p/p, End-cap, linear scale

CSC p/p Barrel

Back-up ?

Conversions - Hongbo & Thomas

Det Paper Eff vs R, Pairs

Det Paper Eff vs R, Pairs & singles

CSC Eff vs Eta

Back-up Effect of BT

Back-up Mass

Back-up Chisq

May want to put in Vertexing Note.

Major updates:

-- StephenHaywood - 18 Jan 2008

%RESPONSIBLE% StephenHaywood

%REVIEW% **Never reviewed**

This topic: AtlasArchive > InDetTrackingPerformanceDetPaperBU

Topic revision: r12 - 2008-07-22 - StephenHaywood



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