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Welcome to the LHCb Outer Tracker Twiki pages

- Main Outer Tracker Homepage
- OT Online Twiki
- Outer Tracker Software Twiki
- Outer Tracker Technical Design Report
- OT mailing lists (2)

Phone numbers

- OT office point 8 +41 22 76 77868 (77868)
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- Heidelberg Office +41 22 76 75826 (75826)

Documentation

LHCb internal documentation:

- Notes:
  - Public LHCb notes: Outer Tracker
  - Internal LHCb notes: Outer Tracker

- Talks:
  - CERN agenda: Tracking
  - CERN agenda: LHCb weeks

Outer Tracker Publications:

- D. van Eijk, et al., Radiation tolerance of the LHCb Outer Tracker, to be submitted to Nucl.Instrum.Meth. A
- Outer Tracker Performance Paper 2011 Status in svn

Ageing documentation:

- Reviews:
  - J.Va'vra, Review of Wire Chamber Aging NIM A252(1986)547
  - J.A. Kadyk, Wire chamber aging NIM A300(1991)436
- International Workshop on Aging Phenomena in Gaseous Detectors, DESY October 2001
  - Summaries of the sessions

OT meeting LHCb week 8 March 2006
Ageing Workshop 3 April 2006
Ageing Workshop 17 May 2006
OT meeting LHCb week 31 May 2006
Ageing Workshop 12 July 2006
OT meeting LHCb week 12 Sep 2006
Ageing Discussion 13 Oct 2006
Ageing Workshop 10 Nov 2006
Heating Discussion 25 Jan 2007
Vienna Conference on Instrumentation 19-24 Feb 2007
OT meeting LHCb week 14 Mar 2007

S. Bachmann, 10th Vienna Conference on Instrumentation, 2004, The Straw Tube Technology for the LHCb Outer Tracking System
M. Capeans et al., LHCb note 2004-050, LHCb Gas Based Detectors and Ageing
S. Bachmann, LHCb note 2002-031, Specifications for the drift gas quality of the outer tracking system
T. Akesson et al., NIM A515, p166, 2003, Aging studies for the ATLAS TRT
F. Guarino et al., ATL-INDET 99-011, 1999, Outgassing studies of materials for the TRT construction

Gas Detector Literature:

Books:
- W. Blum and L. Rolandi, Particle Detection with Drift Chambers, Springer Verlag, 1993

RichPublications:
- F. Sauli, CERN 77-09, 1977, Principles of Operation of Multiwire Proportional and Drift Chambers
- H. Albrecht et al., NIM A541, p610, 2005, The Outer Tracker Detector of the HERA-B Experiment. Part II: Front-End Electronics
- T. Akesson et al., NIM A522, p25, 2004, Operation of the ATLAS TRT under very high irradiation at the CERN LHC (gas choice)

Talks:
- Werner Riegler: LHCb Muon chambers (MWPC) - Engineering Design Review

Links:
- Particle Data Group: Particle Detectors
- Particle Detector BriefBook
- Useful references for Gas detectors (GSI)
- Garfield
  - Examples
  - ATLAS TRT straws
- Straw tube detectors - Introduction (Heidelberg)
Some more articles:
- M.Uman and G.Warfield, Phys.Rev. 120, 1542, 1960, Theoretical Study of the Electron Drift Velocity in Binary Gas Mixtures with Applications to Ar-CO2 and Ar-N2 Mixtures
- J.C. Armitage et al., NIM A271, p588, 1988, A study of the effect of methane and carbon dioxide concentration on gas amplification in argon based gas mixtures
- W.Hulsbergen et al., HERA-B-00-014, 2000, Calibration of HERA-B Outer Tracker Chambers in a Cosmic Ray Setup at NIKHEF

Useful Theses:
- Outer Tracker Theses in CDS (in title)
  - R.M. van der Eijk, PhD thesis, Univ. of Amsterdam, 2002 Track reconstruction in the LHCb experiment

Other:
- Seva Suvorov: Gas Processes in Outer Tracker Straws June 2005
- Electronic: Howto powerup the chips

-- NielsTuning - 2 Nov 2006

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