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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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- Antonio Pellegrino +41 75 411 2572 (162572)
- Nikhef Office +41 22 76 76309/74024 (76309/74024)
- 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
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• 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.Roland, Particle Detection with Drift Chambers, Springer Verlag, 1993

• RichPublications:
  ♦ F.Sauli, CERN 77-09, 1977, Principles of Operation of Multiwire Proportional and Drift Chambers
  ♦ A.Sharma, SLAC-JOURNAL-ICFA-16-3, 1998, Properties of some gas mixtures used in tracking detectors
  ♦ 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)

  • H.Tolsma, PhD thesis, Univ. Twente, Enschede, 1996, The Honeycomb Strip Chamber: A two coordinate and high precision muon detector
  • A.Schreiner, PhD thesis, Humboldt-Univ., Berlin, 2001, Aging Studies of Drift Chambers of the HERA-B Outer Tracker using CF4-based Gases
  • R.M. van der Eijk, PhD thesis, Univ. of Amsterdam, 2002 Track reconstruction in the LHCb experiment
  • L.B.A. Hommels, PhD thesis, Univ. of Amsterdam, 2006, The Tracker in the Trigger of LHCb

Other:

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

-- NielsTuning - 2 Nov 2006

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