

Frederick C. Luehring

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Education and Training:

High Energy Postdoctoral Positions	1986-1990
Ph.D., Experimental Particle Physics, Northwestern University, Evanston, IL	1981-1986
B.A., Physics, <i>cum laude</i> , ΦβK, Northwestern University, Evanston, IL	1977-1981

Research and Professional Experience:

Employment:

Scientist, Indiana University, Bloomington, IN	2004-Present
Associate Scientist, Indiana University, Bloomington, IN	2001-2004
Physicist/Scientific Programmer, Indiana University, Bloomington, IN	1990-2001
Research Associate, Northwestern University (at Fermilab, Batavia, IL)	1986-1990
Research Assistant, Northwestern University (partly at LBNL, Berkeley, CA)	1983-1986

Selected Professional Positions and Grants:

Member US ATLAS Tier 3 Task Force 2	2013
Level 2 Manager for Software, US ATLAS Computing Project	2011-2013
Level 3 Manager for Application SW, US ATLAS Computing Project	2003-2011
ATLAS TRT Project Lead Software Coordinator	2014-2015
ATLAS TRT Project Documentation Coordinator	2013-Present
ATLAS TRT Member of the Inner Detector Speaker's Committee	2010-Present
ATLAS TRT Project Software Coordinator	1995-2007
Member ATLAS Software Project Management Board (SPMB)	2004-2008
Coordinator Atlas Software Infrastructure Team, ATLAS Project	2004-2008
PI US ATLAS Grant (from CERN) for TRT Documentation	2013 - Present
PI US ATLAS Grant for Atlas Analysis software: Tier 3	2013 - Present
PI IU Grant for US ATLAS MWT2 Network IU Site Connectivity Upgrade	2013
PI US ATLAS Grant SW Usability and Inner Detector Tracking Software	2005-2012
PI IU Grant for US ATLAS Midwest Tier 2 Center	2005-Present
Co-PI IU Grant for Open Science Grid (OSG) Grid Operations	2006-Present

Research:

Areas:

1. Experimental high-energy particle physics
2. Gaseous particle detectors (performance & simulation)
3. High energy physics software infrastructure
4. Computational facilities for high-energy physics: grids, clusters, clouds, and high-speed networks
5. Software and middleware for large scale distributed physics data analysis and grid data processing

Work:

Simulation of the ATLAS Transition Radiation Tracker (TRT) performance at high rates, monitoring and reconstruction of tracks in the TRT, and documentation of the TRT. Helping coordinate operation of the ATLAS TRT detector for LHC Run 2. ATLAS offline data production and analysis at the Midwest Tier 2 Center. Grid operations with the OSG Grid Operations Center (GOC). Development of methods to allow user data analysis on shared US ATLAS computational resources. Ultra high-bandwidth networking at IU and within US ATLAS. Coordinating IU HEP and departmental computing in the IU Physics Department. Public outreach including encouraging participation of underrepresented group members in science. Interested in advocating the beneficial role of science in public policy.

Publications:

NB: Only selected ATLAS project publications are listed where I had personal involvement. I am an ATLAS author and my name is listed on all ATLAS project publications. Some publications are internal notes or conference proceedings.

1. **A neural network clustering algorithm for the ATLAS silicon pixel detector**, The ATLAS Collaboration, JINST 9 P09009, 15 Sep 2014.
2. **Basic ATLAS TRT performance studies of Run 1**, The ATLAS Collaboration, ATL-INDET-PUB-2014-001, 18 May 2014.
3. **Studies of the performance of the ATLAS detector using cosmic-ray muons**. The ATLAS Collaboration (G. Aad et al.). Nov 2010 e-Print: arXiv:1011.6665.
4. **A dynamic system for ATLAS software installation on OSG grid sites**, X. Zhao, T. Maeno, T. Wenaus, F. Luehring, S. Youssef, J. Brunelle, A. De Salvo, A.S. Thompson, Prepared for 17th International Conference on Computing in High Energy and Nuclear Physics 21-27 Mar 2009 J.Phys.Conf.Ser.219:062030, 2010.
5. **Organization and management of ATLAS nightly builds**, F. Luehring, E. Obreshkov, D. Quarrie, G. Rybkine, A. Undrus, Prepared for 17th International Conference on Computing in High Energy and Nuclear Physics 21-27 Mar 2009. Published in J.Phys.Conf.Ser.219:042045, 2010.
6. **Organization, management, and documentation of ATLAS offline software releases**, S. Albrand et al. Prepared for 17th International Conference on Computing in High Energy and Nuclear Physics 21-27 Mar 2009. Published in J.Phys.Conf.Ser.219:042012,2010.
7. **The use of the TWiki web in ATLAS**, Nir Amram et al., Prepared for 17th International Conference on Computing in High Energy and Nuclear Physics, 21-27 Mar 2009 Published in J.Phys.Conf.Ser.219:082008, 2010.
8. **Performance of the ATLAS Detector using First Collision Data**, The Atlas Collaboration (G Aad et al.). May 2010 JHEP 1009:056, 2010.
9. **The ATLAS Inner Detector commissioning and calibration**, ATLAS Collaboration (P. Ryan et al.) 2010 Eur. Phys. J. C70:787-821, 2010.
10. **Expected Performance of the ATLAS Experiment - Detector, Trigger and Physics**, The ATLAS Collaboration (G. Aad et al.). Jan 2009, e-Print: arXiv:0901.0512.
11. **The ATLAS TRT end-cap detectors**, E. Abat et al. Oct 2008, JINST 3:P10003, 2008.
12. **Combined performance tests before installation of the ATLAS Semiconductor and Transition Radiation Tracking Detectors**, E. Abat et al. Aug 2008, JINST 3:P08003, 2008.
13. **The ATLAS TRT electronics**, E. Abat et al. Jun 2008, JINST 3:P06007,2008.
14. **The ATLAS Transition Radiation Tracker (TRT) proportional drift tube: Design and performance**, By ATLAS TRT Collaboration (E. Abat et al.). Feb 2008, JINST 3:P02013, 2008.
15. **The ATLAS TRT barrel detector**, ATLAS TRT Collaboration (E. Abat et al.). Feb 2008, JINST 3:P02014, 2008.
16. **The ATLAS Experiment at the CERN Large Hadron Collider**, ATLAS Collaboration (G. Aad et al.), JINST 3:S08003, 2008.
17. **Organization and management of ATLAS software releases**, E. Obreshkov et al., Prepared for 15th International Conference on Computing in High Energy and Nuclear Physics, Feb 2006. Published in Nucl. Instrum. Meth. A584:244-251, 2008
18. **Acceptance Tests and Criteria of the Atlas Transition Radiation Tracker**, P. Cwetanski et al., IEEE Trans. Nucl. Sci. 52:2911-2916, 2005.
19. **Recent Aging Studies for the ATLAS Transition Radiation Tracker**, T. Akesson, et al., December 2003. Prepared for the proceedings of NSS / MIC 2003, IEEE Nuclear Science Symposium and Medical Imaging Conference, Portland, Oregon, USA
20. **Status of design and construction of the Transition Radiation Tracker (TRT) for the ATLAS experiment at the LHC**, T. Akesson, et al., 15 December 2003. Prepared for the proceedings of the II Workshop on advanced Transition Radiation Detectors for accelerators and space applications, Bari, Italy, 4-7 Sep 2003. Published in Nucl. Instrum. Meth. A522:131-145, 2004.

21. **ATLAS Transition Radiation Tracker Test Beam Results**, T. Akesson, et al., 3 December 2003. Prepared for the proceedings of the II Workshop on advanced Transition Radiation Detectors for accelerators and space applications, Bari, Italy, 4-7 Sep 2003. Published in Nucl. Instrum. Meth. A522:50-55, 2004.
22. **Operation of the ATLAS Transition Radiation Tracker under very high irradiation at the CERN LHC**, T. Akesson, et al., 28 November 2003. Prepared for the proceedings of the II Workshop on advanced Transition Radiation Detectors for accelerators and space applications, Bari, Italy, 4-7 Sep 2003. Published in Nucl. Instrum. Meth. A522:25-32, 2004.
23. **A Step Towards a Computing Grid for the LHC Experiments: Atlas Data Challenge 1**, ATLAS DC1 Task force Collaboration (R. Sturrock et al.), CERN-PH-EP-2004-028, April 30, 2004.
24. **An X-Ray Scanner for Wire Chambers**, T. Akesson, et al., Nucl. Instrum. Meth. A507:622-635, 2003.
25. **Aging Studies for the ATLAS Transition Radiation Tracker (TRT)**, T. Akesson, et al., Nucl. Instrum. Meth. A515:166-179, 2003. (Originally prepared for proceedings of the International Workshop on Aging Phenomena in Gaseous Detectors, Hamburg, Germany, 2-5 Oct 2001).
26. **Tracking Performance of the Transition Radiation Tracker Prototype for the ATLAS Experiment**, T. Akesson, et al., Nucl. Instrum. Meth. A485:298-310, 2002.
27. **Particle Identification Using the Time-over-Threshold Method in the ATLAS Transition Radiation Tracker**, T. Akesson, Nucl. Instrum. Meth. A474:172-187, 2001.
28. **ATLAS Simulation: Status, Performance, and Future Plans**, F. C. Luehring (For the ATLAS collaboration), Prepared for 7th International Workshop on Advanced Computing and Analysis Techniques in Physics Research (ACAT 2000), Batavia, Illinois, 16-20 Oct 2000. Published in "Batavia 2000, Advanced computing and analysis techniques in physics research" 329-331.
29. **Straw Tube Drift-Time Properties and Electronics Parameters for the ATLAS TRT Detector**, T. Akesson et al., Nucl. Instrum. Meth. A449:446-460, 2000.
30. **Electron Identification with a Prototype of the Transition Radiation Tracker for the Atlas Experiment**, T. Akesson et al., Nucl. Instrum. Meth. A412:200-215, 1998.
31. **Description of the TRT Readout**, F. Luehring, ATL-INDET-2002-026, 2002.
32. **Time-over-Threshold and High-Threshold Multiplicity Studies in the 2002 Monte Carlo GEANT3 Simulation of the ATLAS Transition Radiation Tracker**, P. Gagnon and F. Luehring, ATL-COM-2002-016, 2002.
33. **Athena Pile-Up Requirements**, F. Luehring, ATL-SOFT-2001-007, 2001.
34. **Detector and Physics Technical Design Report**, ATLAS TDR14, CERN-LHCC 99-14, 1999.
35. **Inner Detector Technical Design Report**, ATLAS TDR4, CERN-LHCC 97-16, 1997.
36. **Simulation of the TRT System Rate Response and Occupancy**, F. Luehring, et al., ATL-INDET-1994-081, 1994.
37. **ATLAS: Technical Proposal for a General-Purpose P P Experiment at the Large Hadron Collider at CERN**, The ATLAS Collaboration, CERN-LHCC 94-43, 1994.
38. **A Modular Straw Drift Tube Tracking System for the Solenoidal Detector Collaboration Experiment Part 1. Design**, Y. Arai, et al., Nucl. Instrum. Meth. A381:355-371, 1996.
39. **Simulation Studies of Tracking Systems at Very High Luminosity**, D. Adams et al., Nucl. Instrum. Meth. A372:160-180, 1996.
40. **SDC Technical Design Report**, Solenoidal Detector Collaboration, SDC-92-201.
41. **SDC Modular Straw Outer Tracking System Conceptual Design Report**, Solenoidal Detector Collaboration, SDC-91-125.
42. **Measurement of Single Spin Asymmetry in Eta Meson Production in P (Polarized) P- and Anti-P (Polarized) P-Interactions in the Beam Fragmentation Region at 200-GeV/c**, D. L. Adams et al. Nucl. Phys. B510:3-11, 1998.
43. **Spin Transfer in Inclusive Lambda0 Production by Transversely Polarized Protons at 200-GeV/c**, A. Bravar et al., Phys. Rev. Lett. 78:4003-4006, 1997.
44. **Measurement of the Differences in Total Cross Section for Antiparallel and Parallel Longitudinal Spins and a Measurement of Parity Nonconservation with Incident Polarized Protons and Antiproton at 200 GeV/c**, D. Grosnick et al., Phys. Rev. D55:1159-1187, 1997.

45. **Single Spin Asymmetries and Invariant Cross-Section of High Transverse Momentum Inclusive Pi^0 Production in 200 GeV/c pp and anti-pp Interactions**, D. L. Adams et al., Phys. Rev. D53:4747-4755, 1996.
46. **Single Spin Asymmetries in Inclusive Charged Pion Production by Transversely Polarized Anti-Protons**, A. Braver et al., Phys. Rev. Lett. 77:2626-2629, 1996.
47. **Analyzing Power Measurement in Inclusive Λ^0 Production With a 200-GeV/c Polarized Proton Beam**, A. Braver et al., Phys. Rev. Lett. 75:3073-3077, 1995.
48. **Measurement of Single Spin Asymmetry for Direct Photon Production in P P Collisions at 200-GeV/c**, D. L. Adams et al., Phys. Lett. B345:569-575, 1995.
49. **Measurement of the Double Spin Asymmetry A-II for Inclusive Multi Gamma Pair Production With 200-GeV/c Polarized Proton Beam And Polarized Proton Target**, D. L. Adams et al., Phys. Lett. B336:269-274, 1994.
50. **Analyzing Power Measurement of P P Elastic Scattering in the Coulomb - Nuclear Interference Region with the 200-GeV/c Polarized Proton Beam at Fermilab**, N. Akchurin, et al., Phys. Rev. D48:3026-3036, 1993.
51. **High X(T) Single Spin Asymmetry in Pi^0 and Eta Production at X(F) = 0 by 200-GeV Polarized Anti-protons And Protons**, D. L. Adams et al., Phys. Lett. B276:531-535, 1992.
52. **Large X(F) Spin Asymmetry in Pi^0 Production by 200-GeV Polarized Protons**, D. L. Adams et al., Z. Phys. C56:181-184, 1992.
53. **Analyzing Power in Inclusive Pi^+ And Pi^- Production at High X(F) with a 200-GeV Polarized Proton Beam**, D. L. Adams et al., Phys. Lett. B264:462-466, 1991.
54. **First Results for the Two Spin Parameter A(II) in Pi^0 Production by 200-GeV Polarized Protons And Anti-Protons**, D. L. Adams et al., Phys. Lett. B261:197-200, 1991.
55. **Comparison of Spin Asymmetries and Cross-sections In Pi^0 Production by 200-GeV Polarized Protons And Protons**, D. L. Adams et al., Phys. Lett. B261:201-206, 1991.
56. **Measurement of the Analyzing Power in the Primakoff Process with a High-Energy Polarized Proton Beam**, D. C. Carey et al., Phys. Rev. Lett. 64:357, 1990.
57. **The Design And Performance of the FNAL High-Energy Polarized Beam Facility**, D. P. Grosnick et al., Nucl. Instrum. Meth. A290:269, 1990.
58. **Analyzing Power Measurements of Coulomb Nuclear Interference with the Polarized Proton And Anti-Proton Beams at 185-GeV/c**, N. Akchurin et al., Phys. Lett. B229:299, 1989.
59. **Analyzing Power Measurement in Inclusive Pi^0 Production at High X(F)**, B Bonner et al., Phys.Rev. Lett. 61:1918,1988.
60. **The Fermilab Polarized Proton and Anti-Proton Beam**, F. C. Luehring, Proceedings of the 8th International Symposium on High-Energy Spin Physics, Vol. 2 1056-1061, 1988.

Talks and Presentations

1. **TRT Offline Software, Qualification Tasks, and Documentation**, TRT Days Meeting, CERN, Geneva, Switzerland, October 22, 2014.
2. **Tracking Session Workshop Key Results, and Wrap Up**, TRT Days Meeting, Krakow, Poland, June 27, 2014.
3. **Remaining issues, discussions, conclusions, plans**, Tracking Session, TRT Days Meeting, Krakow, Poland, June 25, 2014.
4. **TRT Documentation**, Inner Detector Week, TRT Session, CERN, Geneva, Switzerland, February 2, 2014.
5. **Tests of Dedicated Panda Queues, Condor Flocking, and FAX Access**, US ATLAS Distributed Computing Workshop, University of Arizona, Tucson, AZ, December 11, 2013.
6. **TRT Documentation Session**, TRT Session, Inner Detector Week, CERN, Geneva, Switzerland, October 29, 2013.
7. **TRT Software: Documentation, Tasks, Priorities, & Long Term Plan**, TRT Days, Inner Detector Week, CERN, Geneva, Switzerland, June 13, 2013.
8. **IU MWT2 Networking**, AGLT2-MWT2 Regional Network Planning Meeting, University of Chicago, Chicago, IL, June 3, 2013.
9. **Finding the Higgs Boson on the Open Science Grid**, Open Science Grid All Hands Meeting, Indianapolis, IN, March 13, 2013.
10. **Plots to be approved for speakers**, TRT Session, Inner Detector Week, CERN, Geneva, Switzerland, February 20, 2013.
11. **TRT-Related SW Work: Personnel & Knowledge Transfer**, TRT Session, Inner Detector Week, CERN, Geneva, Switzerland, February 20, 2013.
12. **Meeting Goals and Software Overview**, US ATLAS Software Planning Meeting, Bloomington, IN, August 2, 2012.
13. **ATLAS Software Planning Meeting Goals**, US ATLAS Software Planning Meeting, Argonne National Laboratory, Argonne, IL, August 3, 2011.
14. **Squid for T3s**, US ATLAS Facility Meeting at Open Science Grid All Hands Meeting, Harvard Medical School, Cambridge, MA, March 9, 2010.
15. **Conditions Data at Tier 2, Tier 3, and User Sites**, Database Session, ATLAS Software and Computing Week, CERN, Geneva, Switzerland, September 3, 2009.
16. **ATLAS Conditions Databases for T3 Frontier and Squid: Experience installing and working at T3**, US ATLAS Tier2/3 Workshop, University of Chicago, Chicago, IL, August 20, 2009.
17. **Experience at the Indiana Tier 3**, Tier 3(g,w) meeting at the Analysis Support Center, Argonne National Laboratory, Argonne, IL, May 18, 2009.
18. **Organization, Management, and Documentation of ATLAS Offline Software Releases**, Software Components, Tools, and Databases Session at Computing in High Energy Physics 2009 (CHEP09), Prague, the Czech Republic, March 25, 2009.
19. **Pacball Distribution**, SIT Session of ATLAS Software Workshop, CERN, Geneva, Switzerland, March 19, 2009.
20. **Doing TRT Analysis at IU Tier 3 and ANALY_MWT2**, ATLAS Tier 3 meeting at the OSG All Hands Meeting, LIGO Livingston Louisiana Site, March 3, 2009.
21. **Database Access Experience during TRT Performance Monitoring**, Database Deployment and Operations Meeting, telephone conference hosted by CERN, February 11, 2009.
22. **TRT Performance Monitoring**
23. **Use of Pacballs and DQ2 to Distribute the ATLAS Software**, US ATLAS Computing Facility Meeting, Brookhaven National Laboratory, September 22, 2008 (with Xin Zhao).
24. **Software Infrastructure Status Report**, ATLAS Software Week, CERN, Geneva, Switzerland, April 28, 2008.
25. **Miscellaneous SIT Issues**, ATLAS Software Week, CERN, Geneva, Switzerland, February 26, 2008 (talk presented by another person due to family emergency).
26. **Feedback from Release Strategy Discussion**, ATLAS Software Week Plenary Session, CERN,

- Geneva, Switzerland, October 26. 2007.
27. **Miscellaneous SIT Issues**, ATLAS Software Week SIT Session, CERN, Geneva, Switzerland, October 23. 2007.
 28. **SIT Session Highlights**, ATLAS Software Week Plenary Session, CERN, Geneva, Switzerland, June 29. 2007.
 29. **Miscellaneous SIT Issues**, ATLAS Software Week SIT Session, CERN, Geneva, Switzerland, June 26. 2007.
 30. **Installing the ATLAS Offline Software**. US ATLAS Tier 2 and Tier 3 Meeting, Indiana University, Bloomington, IN, June 20, 2007.
 31. **SIT Session Intro & Misc Issues**, ATLAS Software Week, CERN, Geneva, Switzerland, March 29, 2007.
 32. **Brief TRT Software Overview**, TRT SW session during Inner Detector Week, CERN, Geneva, Switzerland, February 26, 2007.
 33. **SIT Coordination Issues**, ATLAS Software Week SIT Session, CERN, Geneva Switzerland, December 13, 2006.
 34. **Software Infrastructure Hot Items**, ATLAS Software Week Plenary Session, CERN, Geneva, Switzerland, September 15, 2006.
 35. **IU ATLAS Computing Progress and Grid Work**, DOE Review of IU Grant, Indiana University, Bloomington, IN, August 23, 2006.
 36. **ATLAS Software Infrastructure**, US ATLAS Tier 1 & 2 Meeting, Harvard University, Cambridge, MA, August 17, 2006.
 37. **Community Support Plans**, OSG Operations Meeting, IUPUI, Indianapolis, IN, May 16, 2006.
 38. **Grid Computing for Atlas**, Weekly IU HEP Seminar, Indiana University, Bloomington, IN, March 19, 2006.
 39. **Review of Offline SW Documentation**, Atlas Offline Software Review, CERN, Geneva, Switzerland, February 8, 2006.
 40. **SIT Meeting Highlights & Atlas Offline SW Release Building Strategy**, Software Week Friday Plenary, LAL, Orsay, France, December 9, 2005.
 41. **Atlas Offline SW Release Building Strategy**, Software Week SIT session, LAL, Orsay, France, December 8, 2005.
 42. **SIT Planning**, Software Week SIT session, CERN, Geneva, Switzerland, September 29, 2005.
 43. **SIT Review Follow-Up**, Software Week Review Follow-Up Session, CERN, Geneva, Switzerland, September 26, 2005.
 44. **Atlas Software and Grid**, IU DOE Site Review, August 23, 2005.
 45. **Interoperability Activity**, OSG Consortium Meeting, University of Wisconsin, Milwaukee, Wisconsin, July 20, 2005.
 46. **User Support Issues**, SIT Session (I), Atlas Software Week, CERN, Geneva, Switzerland, May 23, 2005.
 47. **SIT Coordination Issues**, SIT Session (I), Atlas Software Week, CERN, Geneva, Switzerland, May 23, 2005.
 48. **Atlas Software Infrastructure**, Midwest Tier 2 Kickoff Meeting, IUPUI, Indianapolis, IN, May 13, 2005.
 49. **Inner Detector Overview**, Atlas Trigger Workshop, University of California, Irvine, CA, April 13, 2005.
 50. **Issues Raised in SIT Sessions**, ATLAS Software Week, CERN, Geneva, Switzerland, February 25, 2005
 51. **TRT SW Status and Plans**, ATLAS Inner Tracker SW Meeting, CERN, Geneva, Switzerland, February 10, 2005.
 52. **SIT Review Issues**, SIT Review, CERN, Geneva, Switzerland, February 4, 2005,
 53. **Use of TRT in Electron ID**, US egamma Meeting, Brookhaven National Laboratory, Upton, NY, January 13, 2005.
 54. **Inner Detector Performance**, First North American Atlas Workshop, University of Arizona, Tucson, AZ, December 20, 2004.

55. **Software Infrastructure Overview**, ATLAS Software Week Plenary, CERN, Geneva, Switzerland December 10, 2004.
56. **Software Infrastructure Overview**, ATLAS Software Week Parallel Session, CERN, Geneva, Switzerland, December 7, 2004.
57. **Software Infrastructure: Status and Plans**, Atlas Software Week Plenary, CERN, Geneva, Switzerland, September 24, 2004.
58. **Automated Validation: Feedback From SIT Meetings**, Atlas Software Validation Session, CERN, Geneva, Switzerland, September 22, 2004.
59. **Software Infrastructure Overview: Hot Topics, Coordination, and Miscellaneous**, Atlas SIT Meeting, CERN, Geneva, Switzerland, September 21, 2004.
60. **Software Session Summary**, TRT Meeting Plenary, CERN, Geneva, Switzerland. September 3, 2004.
61. **Atlas Software and Grid**, DOE Site Visit, Physics Department, Indiana University, Bloomington, IN, August 25, 2004.
62. **Release Coordinators Report**, Atlas Software Workshop Plenary, Brookhaven National Laboratory, Upton, NY, May 24, 2004.
63. **Releases and Organization Issues**, Inner Detector Software Meeting, CERN, Geneva, Switzerland, February 24, 2004.
64. **Software and Combined Testbeam Summary**, TRT Workshop, Peñíscola, Spain, October 3, 2003.
65. **Summary of Combined Testbeam Software Discussion**, TRT Workshop, Peñíscola, Spain, October 2, 2003.
66. **News About TRT-Related Work on Offline Software**, TRT Workshop, Peñíscola, Spain, September 30, 2003.
67. **Overview of US Work on Simulation and Reconstruction**, US ATLAS Computing Meeting, BNL, Upton, NY, August 28, 2003.
68. **Software Summary & Closeout**, TRT Week, CERN, Geneva, Switzerland, June 23, 2003.
69. **GEANT3 TRT Simulation Status & Recent GEANT3 TRT Studies Using 6.0.3**, TRT Week, CERN, Geneva, Switzerland, June 19, 2003.
70. **TRT Reconstruction Perspective**, Reconstruction Task Force Open Session, CERN, Geneva, Switzerland, March 5, 2003.
71. **ID Fake Track Rates Using xKalman**, Inner Detector Software and Performance Meeting, CERN, Geneva, Switzerland, December 16, 2002. (Collaborator presented talk because of scheduling conflict.)
72. **iGOC Support of WorldGrid**, iVDGL Technical Planning Meeting, Information Sciences Institute, Marina Del Ray, CA, December 16, 2002.
73. **Overall TRT Software Status**, TRT Week, CERN, Geneva, Switzerland, October 4, 2002.
74. **ATLAS Software**, DOE Site Visit to Indiana University HEP Group, Indiana University, Bloomington, IN, August 16, 2002.
75. **Summary of Testbeam, DAQ, and Simulation Session**, TRT Workshop, Hampton University, Hampton, VA, May 22, 2002.
76. **TRT Material Status**, TRT Workshop, Hampton University, Hampton, VA, May 21, 2002.
77. **Status of TRT GEANT3 Simulation & Recent TRT Rate Studies**, TRT Workshop, Hampton University, Hampton, VA, May 21, 2002.
78. **TRT Readout Document and Arising Readout Issues**, TRT Workshop, Hampton University, Hampton, VA, May 19, 2002.
79. **Recent GEANT3 TRT Software Releases Charged Particle Rates in the TRT**, February 2002 TRT Week Software Session, CERN, Geneva, Switzerland, February 21, 2002.
80. **Simulation of ATLAS TRT Detector**, Weekly IU HEP Group Seminar, Indiana University, Bloomington, IN January 7, 2002.
81. **Status of TRT Simulation**, Inner Detector Software and Performance Meeting, CERN, Geneva, Switzerland October 16, 2001.
82. **Status of GEANT3 TRT Full Detector Simulation**, October 2001 TRT Week Software Session, CERN, Geneva, Switzerland October 12, 2001.
83. **ATLAS Software**, DOE Site Visit, Indiana University, Bloomington, IN September 24, 2001.
84. **New TRT GEANT3 Geometry and Digitization Code**, Inner Detector Software and Performance

- Meeting, CERN, Geneva, Switzerland June 12, 2001.
85. **TRT Material Update**, TRT Software and Testbeam Meeting, Istanbul, Turkey, May 4, 2001
 86. **Status of GEANT3 TRT Code Release, Status of GEANT4 Hit Definitions**, TRT Software and Testbeam Meeting, Istanbul, Turkey, May 4, 2001.
 87. **GEANT4 Hit Definitions, GEANT3 TRT Code Release**, TRT Software and Testbeam Meeting, CERN, Geneva, Switzerland February 21, 2001.
 88. **New GEANT3 TRT and ID Services, GEANT4 Pile-Up Requirements, GEANT4 Inner Detector Hit Definitions**, Inner Detector Software and Performance Meeting, CERN, Geneva, Switzerland February 20, 2001.
 89. **ID GEANT4 Status and Problems**, ATLAS GEANT4 Workshop, CERN, Geneva, Switzerland December 5, 2000.
 90. **Atlas Simulation: Status, Performance and Future Plans**, VII International Workshop on Advanced Computing and Analysis Techniques in Physics Research, FNAL, Batavia, IL October 19, 2000.
 91. **Data Comparison in ATLAS Inner Detector**, GEANT4 2000: The Fifth International Meeting of the GEANT4 collaboration, Orsay, France (via audio link) October 16, 2000.
 92. **ID Simulation Status**, Inner Detector Software, and Performance Meeting, CERN, Geneva, Switzerland October 3, 2000.
 93. **TRT Software and Testbeam Analysis Status**, TRT General Meeting, CERN, Geneva, Switzerland September 29, 2000.
 94. **Requirements on Tracking Amount of Detector Material for Simulation**, Inner Detector Material Meeting, CERN, Geneva, Switzerland, August 28, 2000.
 95. **Inner Detector Reconstruction**, US ATLAS Meeting, BNL, Upton, NY July 25, 2000.
 96. **IU ATLAS Software Work and Plans**, DOE Site Visit, IU, Bloomington, IN July 12, 2000.
 97. **Beampipe Rate Study and TRT Geometry**, Inner Detector Software and Performance Meeting, CERN, Geneva, Switzerland July 5, 2000.
 98. **TRT Software Session Summary**, TRT Workshop, University of Pennsylvania, Philadelphia, PA June 5, 2000.
 99. **GEANT3 Maintenance**, TRT Workshop, University of Pennsylvania, Philadelphia, PA June 4, 2000.
 100. **Visual Inspection and Other QA VIs**, TRT Workshop, University of Pennsylvania, Philadelphia, PA June 1, 2000.
 101. **Geometry and Material in GEANT**, TRT Workshop, University of Pennsylvania, Philadelphia, PA June 1, 2000.
 102. **Material Status and Recent Studies**, TRT Workshop, University of Pennsylvania, Philadelphia, PA May 31, 2000.
 103. **Recent TRT Studies**, Inner Detector Software and Performance Meeting, CERN, Geneva, Switzerland December 6, 1999.
 104. **TRT Updates in GEANT3**, Inner Detector Software and Performance Meeting, CERN, Geneva, Switzerland September 15, 1999.
 105. **TRT Material Status**, TRT Group Meeting, CERN, Geneva, Switzerland September 10, 1999.
 106. **Recent TRT Studies**, Inner Detector Performance Meeting, CERN, Geneva, Switzerland September 6, 1999.
 107. **TRT Software Status and Plans**, US ATLAS Meeting, BNL, Upton, NY July 22, 1999.
 108. **TRT Work for Physics TDR**, TRT Workshop, Krakow, Poland June 5, 1999.
 109. **TRT High Rate Simulation**, TRT Workshop, Krakow, Poland, June 1, 1999.
 110. **MC Status and GEANT4 Development**, TRT Meeting, CERN, Geneva, Switzerland February 18, 1999.
 111. **TRT Status**, Inner Detector Software and Performance Meeting, CERN, Geneva, Switzerland February 17, 1999.
 112. **Progress on ATLAS TRT Detector**, IU HEP Seminar, Bloomington, IN January 29, 1999.
 113. **TRT Update**, Inner Detector Software and Performance Meeting, CERN, Geneva, Switzerland November 17, 1998.
 114. **TRT Simulation Status**, TRT Group Meeting, CERN, Geneva, Switzerland November 13, 1998.
 115. **Number of Hits on Tracks Passing Through TRT End-Cap**, TRT Workshop, PNPI, Gatchina (St.

- Petersburg), Russia September 19, 1998.
116. **ATLAS Simulation Work**, IU HEP Meeting, Bloomington, IN April 6, 1998.
 117. **TRT Simulation Status**, Inner Detector Software and Performance Meeting, CERN, Geneva Switzerland March 3, 1998.
 118. **Simulation of DMILL ASDBLR**, TRT Electronics Meeting, CERN, Geneva, Switzerland February 26, 1998.
 119. **Effect of Overshoot on TRT Efficiency**, TRT Workshop, Indiana University, Bloomington, IN October 14, 1997.
 120. **TRT Performance**, DOE Site Visit to Indiana University, Bloomington, IN June 3, 1997.
 121. **TDR Results and TRT SW Job List**, TRT Group Meeting, CERN, Geneva, Switzerland, May 26, 1997.
 122. **TRT Performance**, DOE/NSF Lehman Review, BNL, Upton, NY May 14, 1997.
 123. **TRT TDR Studies Progress Report**, Inner Detector Software and Performance Meeting, CERN, Geneva, Switzerland March 4, 1997.
 124. **TRT Performance Studies**, TRT Group Meeting, CERN, Geneva, Switzerland February 6, 1997.
 125. **TRT Trigger Studies**, TRT Electronics Meeting, CERN, Geneva, Switzerland February 5, 1997.
 126. **TRT Performance Figures**, Inner Detector Software and Performance Meeting, CERN, Geneva, Switzerland February 4, 1997.