

REFERENCES

1. PEP-II - An Asymmetric B Factory, Conceptual Design Report, SLAC-418, LBL-5379 (1993).
2. The BABAR Collaboration, Letter of Intent for the Study of CP Violation and Heavy Flavor Physics at PEP-II, SLAC-443 (1994).
3. BABAR Technical Design Report, SLAC-R-457 (1995).
4. The BABAR Physics Book, Physics at an Asymmetric B Factory, P.F. Harrison, H.R. Quinn, Editors, SLAC-R-504 (1998).
5. The Physics Program of a High-Luminosity Asymmetric B Factory at SLAC, SLAC-353 (1989); *Proceedings of the Workshop on Physics and Detector Issues for a High Luminosity Asymmetric B Factory at SLAC*, SLAC-373 (1991).
6. Objectivity, Inc., Mountain View, CA, USA.
7. L. Dalesio *et al.*, Nucl. Instr. Methods A352 (1994) 179.
8. The VxWorks realtime operating system and Tornado Development interface, Wind River Systems, Inc., Alameda, CA, USA.
9. T. Glanzman *et al.*, The BABAR Prompt Reconstruction System, *Proceedings of the International Conference on Computing in High Energy Physics*, Chicago, USA (1998). F. Safai Tehrani, The BABAR Prompt Reconstruction Manager: A Real Life Example of a Constructive Approach to Software Development, submitted to Computer Physics Communications (2000).
10. J. Seeman *et al.*, The PEP-II Storage Rings, SLAC-PUB-8786 (2001), submitted to Nucl. Instr. and Methods .
11. J. Seeman *et al.*, Status Report on PEP-II Performance, *Proceedings of the 7th European Particle Accelerator Conference (EPAC 2000)*, Vienna, Austria (2000).
12. M. Sullivan, B -Factory Interaction Region Designs, *Proceedings of the IEEE Particle Accelerator Conference (PAC97)*, Vancouver, B.C., Canada (1997), SLAC-PUB-7563.
13. S.E. Csorna *et al.*, (CLEO Collaboration), Phys. Rev. 61 (2000) 111101.
14. T. Mattison *et al.*, Background Measurements during PEP-II Commissioning, *Proceedings of the IEEE Particle Accelerator Conference (PAC99)*, New York, NY, USA (1999).
15. W. Kozanecki, Nucl. Instr. Methods A446 (2000) 59.
16. C. Hast *et al.*, Report of the High-Luminosity Background Task Force, BABAR Note 522 (2000).
17. T.I. Meyer *et al.*, Contribution to DPF 2000, Meeting of the Division of Particles and Fields of the American Physical Society, Columbus, OH, USA (2000).
18. B. Camanzi, *et al.*, Nucl. Instr. Methods A 457 (2001) 476.
19. F. Kircher, *et al.*, IEEE Transactions on Applied Superconductivity, 9 #2 (1999) 847.
20. Opera-2D, Vector Fields, Inc., Aurora, IL, USA; ANSYS by ANSYS Inc., Canonsburg, PA, USA; Mermaid (©1994) by Sim Limited, Novosibirsk, Russia.
21. A. Onuchin *et al.*, Magnetic Field Calculation in the BABAR Detector, BABAR Note 344 (1996).
22. L. Keller *et al.*, Magnetic Field Calculation in the BABAR Detector, BABAR Note 370 (1997).
23. Kawasaki Heavy Industries (KHI), Kobe, Japan.
24. Europa Metali SpA, Fornaci di Barga, Italy. Alcatel Swiss Cable (now Nexans), Cortaillod, Switzerland.
25. Solenoid cool-down and cryogenic Helium is supplied by a modified Linde TCF-200 liquefier/refrigerator.
26. Ansaldo Energia, Genova, Italy.
27. The solenoid was shipped from Genova on a C5-B transport plane of the US Air Force.
28. E. Antokhin *et al.*, Nucl. Instr. Methods A432 (1999) 24.
29. C. Newman-Holmes, E.E. Schmidt, R. Yamada, Nucl. Instr. Methods A274 (1989) 443.
30. Sentron model 2MR-4A/3B-14B25-20 (2-element) and, AMR-3B-14B25-20 (1-element) Hall Probes, GMW Associates, San Carlos, CA, USA.
31. Metrolab model PT 2025 Telsameter with model 1060 NMR probe, Metrolab Instruments, SA, CH-1228, Geneva, Switzerland.

32. A. Boyarski *et al.*, Field Measurements in the BABAR Solenoid, BABAR Note 514 (2000).
33. UBE Industries, Japan. see also [34]
34. C. Bozzi *et al.*, Nucl. Instr. Methods A447 (2000) 20.
35. D. Barbieri *et al.*, Nuo. Cim. A112 (1999) 113.
36. MICRON Semiconductor Ltd., Lancing, U.K.
37. L. Bosisio, INFN Trieste, Italy, *private communication*.
38. G. Della Ricca *et al.*, Nucl. Instr. Methods A409 (1998) 258.
39. V. Re *et al.*, Nucl. Instr. Methods A409 (1998) 354.
40. J. Beringer *et al.*, The Data Transmission System for the BABAR Silicon Vertex Tracker, BABAR Note 518 (2000).
41. R. Claus *et al.*, SLAC-PUB-8134 (1999).
42. CAEN, Costruzioni Apparecchiature Elettroniche Nucleari, Viareggio, Italy.
43. Medelec Mechanical, Puidoux, Switzerland.
44. Celenex 3300-2 polyester thermoplastic with 30% silica glass fiber.
45. E. Borsato *et al.*, Nucl. Instr. Methods A451 (2000) 414.
46. Luma Metall AB, Kalmar, Sweden.
47. California Fine Wire, Grover Beach, CA, USA.
48. A. Berenyi *et al.*, IEEE Trans. Nucl. Sci. 46 (1999) 348; *ibid.* 46 (1999) 928.
49. J. Albert *et al.*, IEEE Trans. Nucl. Sci. 46 (1999) 2027; A. Bouchan *et al.*, Nucl. Instr. Methods A409 (1998) 46; G. Sciolla *et al.*, Nucl. Instr. Methods A419 (1998) 310.
50. D. Dorfan *et al.*, Nucl. Instr. Methods A409 (1998) 310.
51. S.F. Dow *et al.*, IEEE Trans. Nucl. Sci. 46 (1999) 785.
52. Y. Karyotakis, D. Boutigny, LAPP Annecy, France, *private communication*.
53. Garfield: Simulation of Gaseous Detectors, CERN Program Library (1992).
54. P. Billoir, Nucl. Instr. Methods A225 (1984) 225.
55. D.N. Brown, E.A. Charles, D.A. Roberts, The BABAR Track Fitting Algorithm, *Proceedings of CHEP 2000*, Padova, Italy (2000).
56. B.N. Ratcliff, SLAC-PUB-5946 (1992); B. N. Ratcliff, SLAC-PUB-6067 (1993); P. Coyle *et al.*, Nucl. Instr. Methods A343 (1994) 292.
57. Spectrosil is a trademark of TSL Group PCL, Wallsend, Tyne on Wear, NE28 6DG, England; Sold in the USA by Quartz Products Co., Louisville, KY, USA.
58. I. Adam *et al.*, IEEE Trans. Nucl. Sci. 45 No. 3 (June) 657; I. Adam *et al.*, *ibid.* 450; J. Cohen-Tanugi, M. C. Convery, B. N. Ratcliff, X. Sarazin, J. Schwiening, J. Va'vra, SLAC-JOURNAL-ICFA-21, ICFA Instrumentation Bulletin, Fall 2000 Issue.
59. M. Benkebil *et al.*, Nucl. Instr. Methods A442 (2000) 364.
60. Boeing Optical Fabrication, Albuquerque, NM, USA.
61. Electron Tubes Limited (formerly: Thorn EMI Electron Tubes), Ruislip, Middlesex, England.
62. P. Bourgeois, M. Karolak, G. Vasseur, Nucl. Instr. Methods A442 (2000) 105.
63. Epoxy Technology, Inc., Billerica, MA, USA.
64. J. Va'vra, Nucl. Instr. Methods A453 (2000) 262.
65. P. Bailly *et al.*, Nucl. Instr. Methods A432 (1999) 157.
66. J. Ardelean *et al.*, LAL-RT-97-04 (1997).
67. P. Bailly *et al.*, Nucl. Instr. Methods A433 (1999) 432.
68. The micro-controller is a MC68HC05x32, Motorola Inc., Schaumburg, IL, USA.
69. I. Adam *et al.*, SLAC-PUB-8783 (2001), to be published in IEEE Trans. Nucl. Sci.
70. R. Aleksan *et al.*, Nucl. Instr. Methods A397 (1997) 261.
71. T. Swarnicki, Performance of the CLEO-II CsI(Tl) Calorimeter, *Proceedings of Workshop on B Factories*, Stanford, CA, USA (1992).
72. R.J. Barlow *et al.*, Nucl. Instr. Methods A420 (1999) 162.
73. Aldrich-APL, Urbana, IL, USA. Chemetall GmbH, Frankfurt, Germany.
74. Shanghai Institute of Ceramics, Shanghai, P.R.China; Beijing Glass Research Institute, Beijing, P.R.China; Hilger Analytical, Margate, Kent, UK; Crismatec, Nemours, France; Amcrys-H, Kharkov, Ukraine.
75. TYVEK, registered trademark of E.I. DuPont

- de Nemours & Co., Wilmington, DE, USA.
76. G. Dahlinger, Aufbau und Test eines Kalorimeter-Prototyps aus CsI(Tl) zur Energie- und Ortsmessung hochenergetischer Photonen, Ph.D Thesis, Technische Universität Dresden, Germany, (1998).
 77. EPILOX A17-01 manufactured by Leunaer Harze GmbH, Leuna, Germany.
 78. J. Brose, G. Dahlinger, K.R. Schubert, Nucl. Instr. Methods A417 (1998) 311; C. Jessop *et al.*, Development of Front End Readout for the *BABAR* CsI(Tl) Calorimeter, *BABAR* Note 216 (1995); C. Jessop *et al.*, Development of Direct Readout for CsI Calorimeter, *BABAR* Note 270 (1995).
 79. NE-561 manufactured by Nuclear Enterprises, Sighthill, Edinburgh, Scotland.
 80. The calibration procedure employed in this measurement introduces a dependency of the light yield on the shaping time of the preamplifier. When connected to the actual front-end electronics in the *BABAR* detector, the signal is reduced by a factor 1.29.
 81. Fluorinert (polychlorotrifluoro-ethylene) is manufactured by 3M Corporation, St. Paul, MN, USA.
 82. S-2744-08 PIN diode by Hamamatsu Photonics, K. K., Hamamatsu City, Japan. Dark current < 5 nA, capacitance < 105 pF at the depletion voltage of 70 V.
 83. J. Harris, C. Jessop, Performance Tests of Hamamatsu 2774-08 Diodes for the *BABAR* Electromagnetic Calorimeter Front End Readout and Proposal for Reliability Issues, *BABAR* Note 236 (1995).
 84. G. Haller, D Freytag, IEEE Trans. Nucl. Sci. 43 (1996) 1610.
 85. C. Jessop, Reliability Issues for the *BABAR* CsI(Tl) Calorimeter Front End Readout, *BABAR* Note 217 (1995).
 86. S. Menke, Offline Correction of Non-Linearities in the *BABAR* Electromagnetic Calorimeter, *BABAR* Note 527 (2000).
 87. F. Gaede, D. Hitlin, M. Weaver, The Radioactive Source Calibration of the *BABAR* Electromagnetic Calorimeter, *BABAR* Note 531 (2001); J. Button-Shafer *et al.*, Use of Radioactive Photon Sources with the *BABAR* Electromagnetic Calorimeter, *BABAR* Note 322 (1996).
 88. R. Müller-Pfefferkorn, Die Kalibration des elektromagnetischen CsI(Tl)-Kalorimeters des *BABAR*-Detektors mit Ereignissen der Bhabha-Streuung, Ph.D Thesis, TUD-IKTP/01-01, Technische Universität Dresden, Germany (2001).
 89. GEANT Detector Description and Simulation tool, CERN Program Library, Long Writeup W5013 (1994).
 90. S. Menke *et al.*, Calibration of the *BABAR* Electromagnetic Calorimeter with π^0 s, *BABAR* Note 528 (2000).
 91. J. Bauer, Kinematic Fit for the EMC Radiative Bhabha Calibration, *BABAR* Note 521 (2000).
 92. M. Kocian, Das Lichtpulsersystem des elektromagnetischen CsI(Tl)-Kalorimeters des *BABAR*-Detektors, Ph.D Thesis, TUD-IKTP/00-03, Technische Universität Dresden, Germany (2000).
 93. P.J. Clark, The *BABAR* Light Pulser System, Ph.D Thesis, University of Edinburgh, UK (2000); B. Lewandowski, Entwicklung und Aufbau eines Lichtpulsersystems für das Kalorimeter des *BABAR*-Detektors, Ph.D Thesis, Ruhr-Universität Bochum, Germany (2000).
 94. B. Brabson *et al.*, Nucl. Instr. Methods A332 (1993) 419.
 95. S. Otto, Untersuchungen zur Ortsrekonstruktion elektromagnetischer Schauer, Diplomarbeit, Technische Universität Dresden, Germany (2000).
 96. R. Santonico, R. Cardarelli, Nucl. Instr. Methods A187 (1981) 377.
 97. F. Anulli *et al.*, Nucl. Instr. Methods A409 (1998) 542.
 98. A. Calcaterra *et al.*, Performance of the *BABAR* RPCs in a Cosmic Ray Test, *Proceedings of the International Workshop on Resistive Plate Chambers and Related Detectors*, Naples, Italy (1997).
 99. N.Cavallo *et al.*, Nucl. Phys. B(Proc. Suppl.) 61B (1998) 545; N. Cavallo *et al.*, Nucl. Instr. Methods A409 (1998) 297.

- 100.HV system SY-127, Pod Models A300-P and A300-N by CAEN, Viareggio, Italy.
- 101.G. Crosetti *et al.*, Data Acquisition System for the RPC Detector of *BABAR* Experiment, *Proceedings of the International Workshop on Resistive Plate Chambers and Related Detectors*, Naples, Italy (1997).
- 102.J. Christiansen, 32-Channel TDC with On-chip Buffering and Trigger Matching, *Proceedings of Electronics for LHC experiments*, London, UK (1997) 333. S. Minntoli and E. Robutti, *IEEE Trans. Nucl. Sci.* 47 (2000) 147.
- 103.P. Paolucci, The IFR Online Detector Control System, SLAC PUB-8167 (1999).
- 104.L. Lista, Object Oriented Reconstruction Software for the IFR Detector of *BABAR* Experiment, *Proceedings of the Conference on Computing in High Energy Physics*, Padova, Italy (2000).
- 105.A. Zallo *et al.*, *Nucl. Instr. Methods A* 456 (2000) 117.
- 106.A. Berenyi *et al.*, *IEEE Trans. Nucl. Sci.* 46 (1999) 2006.
- 107.A. Berenyi *et al.*, *IEEE Trans. Nucl. Sci.* 46 (1999) 348.
- 108.A. Berenyi *et al.*, *IEEE Trans. Nucl. Sci.* 46 (1999) 928.
- 109.A. Berenyi *et al.*, Nuclear Science Symposium, Conference Record 2 (1998) 988.
- 110.ORCA 2C series, Lucent Technologies, Berkeley Heights, NJ, USA.
- 111.K. Kinoshita, *Nucl. Instr. Methods A* 276 (1989) 242.
- 112.Xilinx 4020E, Xilinx Inc., Mountain View, CA, USA.
- 113.P. D. Dauncey *et al.*, Design and Performance of the Level 1 Calorimeter Trigger for the *BABAR* Detector, to be published in *IEEE Trans. Nucl. Sci.* (2001).
- 114.G.C. Fox, S. Wolfram, *Nucl. Phys.* B149 (1979) 413.
- 115.Sun Ultra 5, with single 333 MHz UltraSPARC-III CPUs and 512 Mbytes of RAM, Sun Microsystems, Inc., Palo Alto, CA, USA.
- 116.Cisco model 6500, Cisco Systems, Inc., San Jose, CA, USA.
- 117.A single Sun Microsystems Ultra Enterprise 450, with four 300 MHz CPUs, 2 Gbytes of RAM, and 720 Gbytes of RAID-3 disk, acts as the data logging server as well as the ODF boot server. Beginning in 2001 all its responsibilities other than data logging were moved to a new Sun Ultra 220R machine with dual 450 MHz UltraSPARC-II CPUs, 1 Gbytes of RAM, and an additional 200 Gbytes RAID array.
- 118.These file and database servers (presently five) are primarily additional Sun Ultra 220Rs, each with about 200 Gbytes of RAID disk. The ten application servers are a mix of Sun Ultra 60s, with dual 360 MHz UltraSPARC-II CPUs and 1 Gbytes of RAM, and Ultra 5s; the console servers are all Ultra 5s.
- 119.R. Claus *et al.*, Development of a Data Acquisition System for the *BABAR* CP Violation Experiment, *Proceedings of the 11th IEEE NPSS RealTime Conference*, Santa Fe, NM, USA (1999), <http://strider.lansce.lanl.gov/~rt99/index11.html>.
- 120.P. Grosso *et al.*, The *BABAR* Fast Control System, *Proceedings of the International Conference on Computing in High-Energy Physics*, Chicago, IL, USA (1998).
- 121.J. Postel, User Datagram Protocol, RFC-0768 (1980); Internet documentation including all RFCs (Requests for Comment) are available online from the Internet Engineering Task Force, <http://www.ietf.org>.
- 122.Motorola model MVME2306 boards, each with a 300 MHz PowerPC 604 CPU, 32 Mbytes of RAM, 5 Mbytes of non-volatile flash memory, two PCI mezzanine card slots (only one of which is currently used), a 100 Mbits/s Ethernet interface, and a Tundra Universe II VME interface, Motorola Inc., Tempe, AZ, USA.
- 123.G-Link, Giga-bit Transmit/Receive Chip Set HDMP-1012/HDMP-1014, Hewlett-Packard, Inc., Palo Alto, CA, USA.
- 124.T.J. Pavel *et al.*, Network Performance Testing for the *BABAR* Event Builder, *Proceedings of the CHEP Conference*, Chicago, IL, USA

- (1998).
- 125.S. Deering, Host Extensions for IP Multicasting, RFC-1112 (1989).
- 126.G. P. Dubois-Felsmann, E. Chen, Yu. Kolomensky *et al.*, IEEE Trans. Nucl. Sci. 47 (2000) 353.
- 127.S. Metzler, *et al.*, Distributed Histogramming, *Proceedings of the International Conference on Computing in High Energy Physics*, Chicago, IL, USA (1998).
- 128.CORBA (Common Object Request Broker Architecture) Standards, Object Management Group, <http://www.corba.org/>.
- 129.ACE/TAO CORBA implementation, Distributed Object Computing Group, Washington University, St. Louis, Missouri, USA and University of California, Irvine, CA, USA, <http://www.cs.wustl.edu/~schmidt/TAO.html>.
- 130.T. Johnson, Java Analysis Studio, *Proceedings of the International Conference on Computing in High Energy Physics*, Padova, Italy (2000).
- 131.High Performance Storage System (HPSS), International Business Machines, Inc., Armonk, NY, USA.
- 132.The ODC IOC's are model MVME177 boards with MC68060 CPUs from Motorola Computer Group, *op. cit.*.
- 133.Controller area network (CAN) for high-speed communication (1993); ISO standards: 11519 Road vehicles (Low-speed serial data communication) (1994); 11898, Road vehicles (Interchange of digital information), <http://www.iso.ch/>.
- 134.T. Meyer, R. McKay, The BABAR General Monitoring Board, BABAR Note 366 (1998).
- 135.B. Franek, C. Gaspar, IEEE Trans. Nucl. Sci. 45 (1998) 1946.
- 136.C. Gaspar, M. Donszelman, DIM - A Distributed Information Management System for the DELPHI experiment at CERN, *Proceedings of the IEEE Eighth Conference on Real-Time Computer Applications in Nuclear, Particle and Plasma Physics*, Vancouver, Canada (1993).
- 137.G. Zioulas, *et al.*, Ambient and Configuration databases for the BABAR online system, *Proceedings of the IEEE Real Time Conference*, Santa Fe, NM, USA (1999).
- 138.I. Gaponenko, *et al.*, An Overview of the BABAR Conditions Database, *Proceedings of the International Conference on Computing in High Energy Physics*, Padova, Italy (2000).
- 139.cdev and CMLOG are software facilities produced by the Accelerator Controls group of the Thomas Jefferson National Accelerator Facility. Documentation is available from their Web site, <http://www.cebaf.gov/>.
- 140.Oracle Corporation, Redwood Shores, CA, USA.
- 141.The Concurrent Versions System is an open-source distributed version control system, <http://www.cvshome.org/>.
- 142.BABAR Software Release Tools, <http://www.slac.stanford.edu/BFR00T/www/doc/workbook/srt1/srt1.html>.