

References

- [1] D. Duellmann. **Big data: Challenges and perspectives**. Grid and Cloud Computing: Concepts and Practical Applications, 192:153, 2016.
- [2] E.-A. Sindrilaru, A.-J. Peters, and D. Duellmann. **Archiving tools for eos**. Journal of Physics: Conference Series, 664(4):042049, 2015.
- [3] M. Arsuaga-Ríos, S. S. Heikkilä, D. Duellmann, R. Meusel, J. Blomer, and B. Couturier. **Using s3 cloud storage with root and cvmfs**. Journal of Physics: Conference Series, 664(2):022001, 2015.
- [4] G. Adde, B. Chan, D. Duellmann, X. Espinal, A. Fiorot, J. Iven, L. Janyst, M. Lamanna, L. Mascetti, J. M. P. Rocha, A. J. Peters, and E. A. Sindrilaru. **Latest evolution of eos filesystem**. Journal of Physics: Conference Series, 608(1):012009, 2015.
- [5] M. Z. Resines, S. S. Heikkilä, D. Duellmann, G. Adde, R. Toebbigke, J. Hughes, and L. Wang. **Evaluation of the huawei uds cloud storage system for cern specific data**. Journal of Physics: Conference Series, 513(4):042024, 2014.
- [6] S. Campana, D. C. van der Ster, A. D. Girolamo, A. J. Peters, D. Duellmann, M. C. D. Santos, J. Iven, and T. Bell. **Commissioning of a cern production and analysis facility based on xrootd**. Journal of Physics: Conference Series, 331(7):072006, 2011.
- [7] R. Brun, D. Duellmann, G. Ganis, A. Hanushevsky, L. Janyst, A. J. Peters, F. Rademakers, and E. Sindrilaru. **The use of proxy caches for file access in a multi-tier grid environment**. Journal of Physics: Conference Series, 331(7):072010, 2011.
- [8] G. Cancio, D. Duellmann, M. Lamanna, and A. Pace. **Online data storage service strategy for the cern computer centre**. Journal of Physics: Conference Series, 331(5):052006, 2011.
- [9] D. Duellmann. **Grid computing in hep and other fields**. CERN School Thailand 2010, October 2010.
- [10] G. Cancio, D. Duellmann, M. Lamanna, and A. Pace. **Online data storage service strategy for the cern computer centre**. submitted to CHEP 2010, Taipei, Taiwan, 2010.

- [11] R. Brun, D. Duellmann, G. Ganis, A. Hanushevsky, L. Janyst, A. Peters, F. Rademakers, and E. Sindrilaru. **The use of proxy caches for file access in a multi-tier grid environment**. submitted to CHEP 2010, Taipei, Taiwan, 2010.
- [12] T. Rekatsinas, D. Dullmann, W. Pokorski, S. Ponce, B. Rabacal, et al. **CASTOR end-to-end monitoring**. J.Phys.Conf.Ser., 219:042052, 2010. doi:10.1088/1742-6596/219/4/042052.
- [13] A. Pace, G. Cancio, and D. Duellmann. **Data management evolution and strategy at cern**. CHEP 2009, Prague, Czech Republic, 2009.
- [14] W. Pokorski et al. **Castor end-to-end monitoring system (poster)**. CHEP 2009, Prague, Czech Republic, 2009.
- [15] A. Valassi, A. Salnikov, R. Bartoldus, D. Duellmann, A. Kalkhof, Z. Molnar, and M. Wache. **Coral server: a middle tier for accessing relational database servers from coral applications**. CHEP 2009, Prague, Czech Republic, 2009.
- [16] D. Duellmann. **Data and metadata management - distributed data access and distributed databases**. CHEP 2009, Prague, Czech Republic, 2009.
- [17] A. Valassi et al. **Lcg persistency framework (pool, coral, cool) - status and outlook**. CHEP 2009, Prague, Czech Republic, 2009.
- [18] D. Duellmann and G. L. Presti. **Srm usage monitoring**. SRM Workshop @ DESY, Hamburg, 2009.
- [19] F. Bonifazi et al. **LHCb experience with LFC replication**. J. Phys. Conf. Ser., 119:042005, 2008. doi:10.1088/1742-6596/119/4/042005.
- [20] D. Duellmann. **Cern storage update**, October 2008. HEPiX Fall 2008, Academia Sinica, Taipei, Taiwan, October 2008.
- [21] D. Duellmann. **Petabyte scale data management for lhc**, June 2008. Workshop on Data Storage, ESRF Grenoble, June 2008.
- [22] **Distributed database access in the lhc computing grid with coral. lhc: Large hadron collider**. Technical Report CERN-IT-Note-2008-020, CERN, Geneva, Nov 2008. The NSS 2008 proceedings are being published by IEEE under their copyright policy.

- [23] G. Pucciani, D. Duellmann, A. Domenici, and G. Dini. **The replica consistency problem in data grids.** [oai:cds.cern.ch:1110291](https://cds.cern.ch/record/1110291). Ph.D. thesis, Univ. Pisa, Pisa, 2008. Presented on Feb 2008.
- [24] D. Duellmann. **Verteiltes daten-management für das lhc projekt am cern**, December 2008. Storage 2008 Conference, Hamburg, Germany.
- [25] D. Duellmann et al. **Production experience with distributed deployment of databases for the lhc**. In CHEP 2007, Victoria, Canada. 2007.
- [26] D. Duellmann, Y. Kariotakis, A. Aerts, R. Brendon, O. Buchmuller, F. Cavallari, V. Chiochia, F. Drouhin, R. Egeland, P. Elmer, D. Giordano, F. Glege, V. Innocente, U. Joshi, L. Lueking, G. Lukhanin, P. Maksimovic, L. Malgeri, I. Mikulec, S. Murray, A. Parenti, P. Rochese, W. Sun, M. Velasco, and I. Vorobiev. **Cms data base task force report**. Technical report, CERN internal document, 2007.
- [27] D. Duellmann and M. Girone. **Distributed database project ensures replication to lcg sites**. CERN Computer Newsletter, Apr 2007.
- [28] D. Duellmann et al. **Distributed database access in the lhc computing grid with coral**. In CHEP 2007, Victoria, Canada. 2007.
- [29] D. Duellmann et al. **Development status and plans for the lcg common database access layer coral**. In CHEP 2007, Victoria, Canada. 2007.
- [30] D. Duellmann. **The lcg distributed database infrastructure**, May 2007. DESY Computing Seminar, Hamburg, Germany.
- [31] D. Duellmann. **Databases for the large hadron collider at cern**, October 2007. XLDB Workshop 2007, Stanford, US.
- [32] R. Chytracek, D. Duellmann, G. Govi, I. Papadopoulos, and A. Valassi. **Persistency framework manages lcg databases**. CERN Computer Newsletter, Sep 2006.
- [33] I. Bird, (ed.) et al. **LHC computing Grid. Technical design report**. 2005. CERN-LHCC-2005-024.

- [34] R. Chytracsek et al. **POOL development status and production experience**. IEEE Trans. Nucl. Sci., 52:2827–2831, 2005. doi: 10.1109/TNS.2005.860141.
- [35] D. Duellmann et al. **Experience with POOL from the LCG data challenges of the three LHC experiments**. 2005.
- [36] D. Duellmann et al. **POOL integration into three experiment software frameworks**. 2005.
- [37] D. Duellmann et al. **POOL development status and plans**. 2005.
- [38] L. Pedro et al. **Addressing the persistency patterns of the time evolving HEP data in the ATLAS/LCG MySQL conditions databases**. 2005.
- [39] A. Valassi, D. Dullmann, A. Amorim, N. Barros, T. Franco, et al. **LCG conditions database project overview**. pages 510–513, 2005.
- [40] Z. Xie, D. Duellmann, G. Govi, V. Innocente, and I. Papadopoulos. **Pool persistency framework for LHC: New developments and CMS applications**. 2005. Prepared for 4th International Workshop on Frontier Science, Milan, Biococca, Italy, 12-17 Sep 2005.
- [41] D. Duellmann. 2004.
- [42] D. Duellmann. **The LCG POOL Project, General Overview and Project Structure**. 2003.
- [43] D. Duellmann, M. Frank, G. Govi, I. Papadopoulos, and S. Roiser. **The POOL data storage, cache and conversion mechanism**. 2003.
- [44] D. Düllmann, W. Hoschek, F. J. Jaén-Martínez, B. Segal, H. Stockinger, K. Stockinger, and A. Samar. **Models for replica synchronisation and consistency in a data grid**. In HPDC [45], pages 67–75.
- [45] **10th IEEE International Symposium on High Performance Distributed Computing (HPDC-10 2001), 7-9 August 2001, San Francisco, CA, USA**. IEEE Computer Society, 2001. ISBN 0-7695-1296-8.

- [46] M. Nowak, D. Duellmann, D. Geppert, P. Kunszt, and S. Paoli. **Object Persistency for HEP data using an Object-Relational Database**. 2001. Computing in High Energy and Nuclear Physics, Beijing, China, 3 - 7 Sep 2001.
- [47] K. Stockinger, D. Düllmann, W. Hoschek, and E. Schikuta. **Improving the performance of high-energy physics analysis through bitmap indices**. In Ibrahim et al. [48], pages 835–845.
- [48] M. T. Ibrahim, J. Küng, and N. Revell, editors. **Database and Expert Systems Applications, 11th International Conference, DEXA 2000, London, UK, September 4-8, 2000, Proceedings**, volume 1873 of Lecture Notes in Computer Science. Springer, 2000. ISBN 3-540-67978-2.
- [49] D. Duellmann. **Espresso: A feasibility study of a scalable, performant ODBMS**. 2000. Prepared for International Conference on Computing in High- Energy Physics and Nuclear Physics (CHEP 2000), Padova, Italy, 7-11 Feb 2000.
- [50] D. Düllmann and J. Shiers. **Object database and petabyte storage - dreams or reality?** In Moreira and Demeyer [52], pages 1–11.
- [51] D. Düllmann and J. Shiers. **Object databases and petabyte storage - dreams or reality?** In Moreira and Demeyer [52], page 210.
- [52] A. M. D. Moreira and S. Demeyer, editors. **Object-Oriented Technology, ECOOP'99 Workshop Reader, ECOOP'99 Workshops, Panels, and Posters, Lisbon, Portugal, June 14-18, 1999, Proceedings**, volume 1743 of Lecture Notes in Computer Science. Springer, 1999. ISBN 3-540-66954-X.
- [53] D. Düllmann. **Petabyte databases**. In Delis et al. [54], page 506.
- [54] A. Delis, C. Faloutsos, and S. Ghandeharizadeh, editors. **SIGMOD 1999, Proceedings ACM SIGMOD International Conference on Management of Data, June 1-3, 1999, Philadelphia, Pennsylvania, USA**. ACM Press, 1999. ISBN 1-58113-084-8.
- [55] O. Melzer et al. **Data handling in the CHORUS emulsion experiment at CERN**. 1999. Prepared for International Europhysics Conference on High- Energy Physics (EPS-HEP 99), Tampere, Finland, 15-21 Jul 1999.

- [56] D. Duellmann. **Object databases as data stores for high energy physics**. 1998. Given at 1998 CERN School of Computing (CSC 98), Funchal, Madeira, Portugal, 6-19 Sep 1998.
- [57] I. Abt et al. **The H1 detector at HERA**. Nucl. Instrum. Meth., A386:310–347, 1997. doi:10.1016/S0168-9002(96)00893-5.
- [58] I. Abt et al. **The Tracking, calorimeter and muon detectors of the H1 experiment at HERA**. Nucl. Instrum. Meth., A386:348–396, 1997. doi:10.1016/S0168-9002(96)00894-7.
- [59] D. Duellmann. **Objectivity/DB performance and scalability**. 1997. Talk given at Computing in High-energy Physics (CHEP 97), Berlin, Germany, 7-11 Apr 1997.
- [60] S. Aid et al. **Jets and energy flow in photon - proton collisions at HERA**. Z. Phys., C70:17–30, 1996. doi:10.1007/s002880050076.
- [61] S. Aid et al. **A Search for leptoquarks at HERA**. Phys. Lett., B369:173–185, 1996. doi:10.1016/0370-2693(95)01601-5.
- [62] S. Aid et al. **A Measurement and QCD Analysis of the Proton Structure Function $F_2(x, Q^2)$ at HERA**. Nucl. Phys., B470:3–40, 1996. doi:10.1016/0550-3213(96)00211-8.
- [63] S. Aid et al. **Elastic Photoproduction of ρ^0 Mesons at HERA**. Nucl. Phys., B463:3–32, 1996. doi:10.1016/0550-3213(96)00045-4.
- [64] S. Aid et al. **Elastic and inelastic photoproduction of J/ψ mesons at HERA**. Nucl. Phys., B472:3–31, 1996. doi:10.1016/0550-3213(96)00274-X.
- [65] S. Aid et al. **Energy flow in the hadronic final state of diffractive and non-diffractive deep-inelastic scattering at HERA**. Z. Phys., C70:609–620, 1996. doi:10.1007/s002880050135.
- [66] S. Aid et al. **Elastic Electroproduction of ρ and J/Ψ Mesons at large Q^2 at HERA**. Nucl. Phys., B468:3–36, 1996. doi:10.1016/0550-3213(96)00192-7.
- [67] S. Aid et al. **A Search for selectrons and squarks at HERA**. Phys. Lett., B380:461–470, 1996. doi:10.1016/0370-2693(96)00640-5.

- [68] S. Aid et al. **Photoproduction of $D^{*\pm}$ Mesons in ep Collisions at HERA.** Nucl. Phys., B472:32–54, 1996. doi:10.1016/0550-3213(96)00275-1.
- [69] S. Aid et al. **A Search for Squarks of Rp-Violating SUSY at HERA.** Z. Phys., C71:211–226, 1996. doi:10.1007/s002880050165.
- [70] S. Aid et al. **Measurement of the Q^2 dependence of the Charged and Neutral Current Cross Sections in $e \pm p$ Scattering at HERA.** Phys. Lett., B379:319–329, 1996. doi:10.1016/0370-2693(96)00545-X.
- [71] D. Duellmann. **HEP data analysis based on an object database store.** 1996. Prepared for 2nd Workshop on HEP Visualization: HEP-VIS 96: Whither HEP Event Display and Data Analysis?, Geneva, Switzerland, 2-4 Sep 1996.
- [72] T. Ahmed et al. **Determination of the strong coupling constant from jet rates in deep inelastic scattering.** Phys. Lett., B346:415–425, 1995. doi:10.1016/0370-2693(95)00095-3.
- [73] T. Ahmed et al. **Observation of hard processes in rapidity gap events in gamma p interactions at HERA.** Nucl. Phys., B435:3–22, 1995. doi:10.1016/0550-3213(94)00541-L.
- [74] T. Ahmed et al. **Experimental study of hard photon radiation processes at HERA.** Z. Phys., C66:529–542, 1995. doi:10.1007/BF01579628.
- [75] T. Ahmed et al. **A Measurement of the proton structure function $f_2(x, Q^2)$.** Nucl. Phys., B439:471–502, 1995. doi:10.1016/0550-3213(95)98236-U.
- [76] T. Ahmed et al. **First measurement of the deep inelastic structure of proton diffraction.** Phys. Lett., B348:681–696, 1995. doi:10.1016/0370-2693(95)00279-T.
- [77] T. Ahmed et al. **Inclusive parton cross-sections in photoproduction and photon structure.** Nucl. Phys., B445:195–218, 1995. doi:10.1016/0550-3213(95)00230-P.
- [78] S. Aid et al. **Measurement of the total photon-proton cross-section and its decomposition at 200-GeV center-of-mass energy.** Z. Phys., C69:27–38, 1995. doi:10.1007/s002880050003.

- [79] S. Aid et al. **Comparison of deep inelastic scattering with photoproduction interactions at HERA.** Phys. Lett., B358:412–422, 1995. doi:10.1016/0370-2693(95)01054-T.
- [80] S. Aid et al. **A Direct determination of the gluon density in the proton at low x.** Nucl. Phys., B449:3–24, 1995. doi:10.1016/0550-3213(95)00348-V.
- [81] S. Aid et al. **Leptoquarks and compositeness scales from a contact interaction analysis of deep inelastic e^+p scattering at HERA.** Phys. Lett., B353:578–588, 1995. doi:10.1016/0370-2693(95)00611-N.
- [82] S. Aid et al. **The Gluon density of the proton at low x from a QCD analysis of F2.** Phys. Lett., B354:494–505, 1995. doi:10.1016/0370-2693(95)00720-6.
- [83] S. Aid et al. **A Study of the fragmentation of quarks in e^-p collisions at HERA.** Nucl. Phys., B445:3–24, 1995. doi:10.1016/0550-3213(95)91599-H.
- [84] S. Aid et al. **Transverse energy and forward jet production in the low x regime at HERA.** Phys. Lett., B356:118–128, 1995. doi:10.1016/0370-2693(95)00804-T.
- [85] S. Aid et al. **Measurement of the e^+ and e^- induced charged current cross-sections at HERA.** Z. Phys., C67:565–576, 1995. doi:10.1007/BF01553982.
- [86] P. Binko, D. Duellmann, and J. Shiers. **CERN RD45 status report: A persistent object manager for HEP.** 1995. Prepared for International Conference on Computing in High-energy Physics (CHEP 95), Rio de Janeiro, Brazil, 18-22 Sep 1995.
- [87] D. Duellmann. **Determination of the cross-section for the production of isolated high-energy photons in electron proton scattering. (In German).** 1995. Hamburg DESY - Int.Rep.FH1T-95-01 (95/05,rec.May) 128 p.
- [88] I. Abt et al. **Scaling violations of the proton structure function f_2 at small x.** Phys. Lett., B321:161–167, 1994. doi:10.1016/0370-2693(94)90344-1.

- [89] I. Abt et al. **A measurement of multi - jet rates in deep inelastic scattering at hera.** Z. Phys., C61:59–66, 1994. doi: 10.1007/BF01641887.
- [90] I. Abt et al. **Inclusive charged particle cross-sections in photoproduction at HERA.** Phys. Lett., B328:176–186, 1994. doi: 10.1016/0370-2693(94)90448-0.
- [91] I. Abt et al. **Energy flow and charged particle spectrum in deep inelastic scattering at HERA.** Z. Phys., C63:377–390, 1994. doi:10.1007/BF01580319.
- [92] T. Ahmed et al. **Photoproduction of J / psi mesons at HERA.** Phys. Lett., B338:507–518, 1994. doi:10.1016/0370-2693(94)90806-0.
- [93] T. Ahmed et al. **First measurement of the charged current cross-section at hera.** Phys. Lett., B324:241–248, 1994. doi: 10.1016/0370-2693(94)90414-6.
- [94] T. Ahmed et al. **Observation of an $e^+ p \rightarrow \mu^+ X$ event with high transverse momenta at HERA.** 1994. DESY-94-248.
- [95] T. Ahmed et al. **Deep inelastic scattering events with a large rapidity gap at HERA.** Nucl. Phys., B429:477–502, 1994. doi: 10.1016/0550-3213(94)90151-1.
- [96] T. Ahmed et al. **A Search for leptoquarks and squarks at HERA.** Z. Phys., C64:545–558, 1994. doi:10.1007/BF01957769.
- [97] T. Ahmed et al. **A Search for heavy leptons at HERA.** Phys. Lett., B340:205–216, 1994. doi:10.1016/0370-2693(94)01301-2.
- [98] I. Abt et al. **Measurement of the proton structure function $f_2(x, q^2)$ in the low x region at hera.** Nucl. Phys., B407:515–538, 1993. doi:10.1016/0550-3213(93)90090-C.
- [99] I. Abt et al. **Measurement of inclusive jet cross-sections in photoproduction at hera.** Phys. Lett., B314:436–444, 1993. doi: 10.1016/0370-2693(93)91263-M.
- [100] I. Abt et al. **A search for leptoquarks, leptogluons and excited leptons in h1 at hera.** Nucl. Phys., B396:3–26, 1993. doi: 10.1016/0550-3213(93)90255-N.

- [101] I. Abt et al. **The h1 detector at hera**. 1993. DESY-93-103.
- [102] T. Ahmed et al. **Total photoproduction cross-section measurement at hera energies**. Phys. Lett., B299:374–384, 1993. doi:10.1016/0370-2693(93)90277-O.
- [103] T. Ahmed et al. **Measurement of the hadronic final state in deep inelastic scattering at hera**. Phys. Lett., B298:469–478, 1993. doi:10.1016/0370-2693(93)91852-E.
- [104] T. Ahmed et al. **Observation of deep inelastic scattering at low x**. Phys. Lett., B299:385–393, 1993. doi:10.1016/0370-2693(93)90278-P.
- [105] T. Ahmed et al. **Hard scattering in gamma p interactions**. Phys. Lett., B297:205–213, 1992. doi:10.1016/0370-2693(92)91094-P.
- [106] J. Coughlan, D. Duellmann, M. Savitsky, and M. Zimmer. **Object oriented programming for online systems at h1**. 1992. Prepared for 10th International Conference on Computing in High-energy Physics (CHEP 92), Annecy, France, 21-25 Sept 1992.
- [107] D. Duellmann. **Online data analysis and monitoring for h1 drift chambers**. Nucl. Instrum. Meth., A315:455–459, 1992. doi:10.1016/0168-9002(92)90746-Q.
- [108] H. Klar, M. Schulz, P. Steffen, and D. Duellmann. **The flash tdc**. Nucl. Instrum. Meth., A275:197–198, 1989. doi:10.1016/0168-9002(89)90354-9.
- [109] H. Klar, M. Schulz, P. Steffen, and D. Duellmann. **A high accuracy pipeline tdc**. 1988. DESY 88/118.