Bibliography

[1] J. Thomson, Philosophical Magazine, vol. 44, series 5, 293 (1897).

[2] J. Chadwick, Nature, **129**, 312 (1932).

[3] J. Chadwick, Verh. d. Deutschen Phys. Ges., **16**, 383 (1914)

[4] N. Bohr, Philosophical Magazine, **26**, 1 (1913).

[5] P. A. M. Dirac, Proc. R. Soc., London **A114** 243, 710 (1927).

[6] R. P. Feynman, Phys. Rev., **76**, 749 (1949).

[7] R. P. Feynman, Phys. Rev., **76**, 769 (1949).

[8] W. Heisenberg, Z. Phys., **77**, 1 (1932).

[9] E. Fermi, Z. Phys., **88**, 161 (1934).

[10] Y. Yukawa Proc. Phys. -Math. Soc., Japan, **17**, 48 (1935).

[11] M. Gell-Mann, Phys. Lett., **8**, 214 (1964).

[12] G. Zweig, CERN report No. 8182/TH401 (1964).

[13] C. N. Yang and R. L. Mills, Phys. Rev., **96**, 191 (1954).

[14] T. D. Lee and C. N. Yang, Phys. Rev., **104**, 254 (1956).

[15] C. S. Wu *et al.* Phys. Rev., **105**, 1413 (1957).

[16] E. C.G .Sudarshan and R. E. Marshak, Phys. Rev., **109**, 1860 (1958).

[17] M. Gell-Mann and R. P. Feynman, Phys. Rev., **109**, 193 (1958).

[18] S. L. Glashow, Nucl. Phys., **22**, 579 (1961).

[19] S. Weinberg, Phys. Rev. Lett., **19**, 1264 (1967).

[20] A. Salam in “Elementary Particle Theory”, Ed. N. Svartholm (Almqvist and Wiksell, 1969) p. 367.

[21] Gargamelle Experiment, F. J. Hasert *et al.* Phys. Lett., **46B**, 138 (1973).

[22] UA1 Collaboration, Phys. Lett., **122B**, 103 (1983).

[23] UA2 Collaboration, Phys. Lett., **122B**, 476 (1983).

[24] UA1 Collaboration, Phys. Lett., **126B**, 398 (1983).

[25] UA2 Collaboration, Phys. Lett., **129B**, 130 (1983).

[26] P. D. B. Collins, A. D. Martin and E. J. Squires, “Particle Physics and Cosmology”, (John Wiley and Sons, 1989).

[27] C. Quigg, “Gauge Theories of the Strong, Weak and Electromagnetic Interactions”, (Benjamin Cummings Publishing Co., 1983)

[28] I. J. R. Aitchison and A. J. G. Hey, “Gauge Theories in Particle Physics”, (Adam Hilger, Philadelphia, 1989).

[29] M. Kobayashi and M. Maskawa, Prog. Theor. Phys., **49**, 652 (1953).

[30] Particle Data Group (L. Montanet *et al.*), "Review of Particle Properties", Phys. Rev. D, **50**, 1233 (1994).

[31] S. Glashow, J. Iliopoulos and L. Maiani, Phys. Rev., **D2**, 1285 (1970).

[32] P. W. Higgs, Phys. Rev. Lett., **12**, 132 (1964).

[33] P. W. Higgs, Phys. Rev., **145**, 1156 (1966).

[34] Particle Data Group (L. Montanet *et al.*), "Review of Particle Properties", Phys. Rev. D, **50**, 1191 (1994).

[35] G. L. Kane, "Top Quark Physics", (Invited lecture at the workshop on High Energy Phenomenology, Mexico City) (1991)
Also available as a University of Michigan preprint (UM – TH – 91 – 32).

[36] The LEP collaborations ALEPH, DELPHI, L3, OPAL and the LEP Electroweak Working Group, LEPEWWG/94-02, (1994) (unpublished) (Presented by D. Schaile at the 27^{th} international conference on High Energy Physics, Glasgow, July 1994).

[37] CDF Collaboration, F. Abe *et al.*, Phys. Rev. D., **45**, 3921 (1992).

[38] DØ Collaboration, S. Abachi *et al.*, Phys. Rev. Lett., **72**, 2138 (1994).

[39] CDF Collaboration, F. Abe *et al.*, Phys. Rev. D, **50**, 2966 (1992).

[40] Particle Data Group (L. Montanet *et al.*), "Review of Particle Properties", Phys. Rev. D, **50**, 1195 (1994).

[41] E. Laenen, J. Smith and W. van Neerven, Phys. Lett. B, **321**, 254 (1994).

[42] Particle Data Group (L. Montanet *et al.*), "Review of Particle Properties", Phys. Rev. D, **50**, 1315 (1994).

[43] Particle Data Group (L. Montanet *et al.*), "Review of Particle Properties", Phys. Rev. D, **50**, 1173 (1994).

[44] C. Hill, and S. Parke, "Top Production: Sensivity to New Physics", (Presented at the 27^{th} international conference on High Energy Physics, Glasgow, July 1994).

[45] J. Thompson, Ph. D. Thesis, State University of New York at Stony Brook, "Search for top quark in the Muon + Jets channel at DØ " (February 1994) (unpublished).

[46] "Design Report, Tevatron 1 Project", Fermi National Laboratory internal note (1984) (unpublished) .

[47] DØ collaboration, S. Abachi *et al.*, Nucl. Instrum. and Methods, **A338**, 185 (1994).

[48] F. Sauli, "Principles of operation of Multiwire Proportional and Drift Chambers" in "Experimental Techniques in High Energy Physics", Ed. T. Ferbel (Addison-Wesley Publishing Co., 1987) p. 79-188.

[49] R. Fernow, "Introduction to Experimental Partcle Physics", (Cambridge University Press, 1986) p. 234.

[50] A. R. Clark *et al.*, Nucl. Instrum. and Methods, **A279**, 245 (1989).

[51] J. Cochran, Ph. D. Thesis, State University of New York at Stony Brook, "Search for Truth the $e\mu$ channel at DØ " (December 1993) (unpublished).

[52] T. Behnke, Ph. D thesis, State University of New York at Stony Brook, "The Central Tracking Chamber for the DØ Experiment: Design, Construction, and Test" (August 1989) (unpublished).

[53] Dominico Pizzuto, Ph. D thesis, State University of New York at Stony Brook, "DØ central tracking chamber performance studies" (December 1991) (unpublished).

[54] D. Chakraborty and R. Engelmann, "Performance and Monitoring of the Central Drift Chamber of DØ : An overview based on the 1991 Cosmic Ray data", DØ internal note 1438 (1992) (unpublished).

[55] S. Rajagopalan, Ph. D. thesis, Northwestern University, "The $\frac{dE}{dx}$ capabilities of the DØ tracking system" (June 1992) (unpublished).

[56] J. Bantly, Ph. D. thesis, Northwestern University, "The DØ detector Forward Drift Chamber Performance and Physics Capability in the 1990 FNAL Testbeam Run" (June 1992) (unpublished).

[57] R. Fernow, "Introduction to Experimental Partcle Physics", (Cambridge University Press, 1986) p. 294.

[58] F. Feinstein, Ph. D. A'l'Universite de Paris-Sud, Centre d'Orsay, "Atude d'un Detecteur a Rayonnement de Transition pour l'Experience DØ au

FNAL" (December 1987) (unpublished).

[59] R. Fernow, "Introduction to Experimental Partcle Physics", (Cambridge University Press, 1986) p. 259.

[60] J. Kotcher, Ph. D. thesis, New York University, "Response of the DØ Calorimeter to cosmic ray muons" (October 1992) (unpublished).

[61] J. E. Brau and K. Furuno, "Hadron Calorimetry — Optimizing Performance" (Presented at the 1st International Conference on Calorimetry in High Energy Physics, FNAL, October 1990, Proceedings Ed. D. Anderson *et al.*, World Scientific, p. 3) This publication also has several illuminating articles on the DØ calorimeter.

[62] S. Aronson *et al.* Nucl. Instrum. and Methods, **A269**, 492 (1988).

[63] J. Yu, Ph. D. Thesis, State University of New York at Stony Brook, "Determination of the Strong Coupling Constant (α_s and a test of Perturbative QCD Using $W+$ Jet Processes in the DØ Detector" (August 1993) (unpublished).

[64] D. Hedin, Private Communication.

[65] J. Linnemann, "Triggering the DØ experiment", in "The Fermilab Meeting", DPF '92, vol. 2, 1642 (1992).

[66] F. Nang and R. Partridge, "Level 0 detector layout", DØ internal note 998 (1990) (unpublished).

[67] J. Bantly *et al.*, "The Level 0 trigger for the DØ detector", DØ internal note 1996 (1990) (unpublished, submitted to IEEE Trans. Nucl. Sci.).

[68] P. Laurens, "First level trigger data block description", `DO$LEVEL1:DO_NOTE_967.DOC`, DØ online documentation (1993) (unpublished).

[69] J. Hoftun, "Level 2 System, Programmer and User Manual", `DO$DOCS:LEVEL2_MANUAL.MEM`, DØ online documentation (1992) (unpublished).

[70] "List of locations of available documentation on existing Level 2 tools", `DO$DOCS:L2TOOLS.DOC`, DØ online documentation (1993) (unpublished).

[71] J. McKinley and J. Linnemann, "The level 2 electromagnetic cluster algorithm", `DO$CALOR_FILTER:L2_EM.DOC`, DØ online documentation (1993) (unpublished).

[72] S. Youssef, "Clustering with local equivalence relations", Computer Physics Comm. **45**, 423 (1987).

[73] DØ Collaboration, S. Abachi *et al.*, "Search for top quark in lepton+jets events", Phys. Rev. D. article in preparation (1994).

[74] R. Engelmann *et al.*, Nucl. Instrum. and Methods, **216**, 45 (1983).

[75] M. Narain, private communication.

[76] D. Chakraborty, M. Fatyga and M. Paterno, "CCEM Module Sampling Fractions and Uniformity of Response", DØ internal note 1375 (1992) (unpublished).

[77] Particle Data Group (L. Montanet *et al.*), "Review of Particle Properties", Phys. Rev. D, **50**, 1191 (1994).

[78] R. Astur, "The Level 2 jet algorithm", `D0$CALOR_FILTER:L2JETS.DOC`, DØ online documentation (1993) (unpublished).

[79] N. Hadley, "Cone Algorithm for jet-finding", DØ internal note 904 (1989) (unpublished).

[80] R. Astur, "Energy-scale corrections", DØ internal note 2089 (1994) (unpublished).

[81] R. Astur, R. Kehoe and A. Milder, "Determintation of hadronic energy scale corrections for the DØ experiment", DØ internal note in preparation (1994).

[82] CDF Collaboration, F. Abe *et al.*, Phys. Rev. Lett., **69**, 2896 (1992).

[83] J. White, J. Linnemann, M. Paterno and A. Boehnlein, "The Level 2 missing E_T algorithm", `D0$CALOR_FILTER:L2ETMISS.DOC`, DØ online documentation (1993) (unpublished).

[84] R. Astur, "Correction of $\not\!\!E_T$ " DØ internal note 2088 (1994) (unpublished).

[85] M. Paterno, "A study of the DØ calorimeter $\not{E}_T$ resolution using low E_T jet triggers", DØ internal note 1782 (1993) (unpublished).

[86] F. Paige and S. Protopopescu, BNL Report no. BNL38034 (1986) (unpublished), release v 6.49.

[87] G. Altarelli and G. Parisi, Nucl. Phys., **B126**, 298 (1977).

[88] R. D. Field and R. P. Feynman, Nucl. Phys., **B136**, 1 (1978).

[89] W. T. Giele, E. Glover and D. Kosower, Nucl. Phys., **B403**, 633 (1993).

[90] D. Chakraborty and Chip Stewart, "VECBOS at DØ : a sorcerer's manual", DØ internal note in preparation (1994).

[91] G. Peter Lepage, J. Comp. Phys., **27**, 192 (1978).

[92] G. Peter Lepage, "VEGAS - An adaptive multi-dimensional integration program", Cornell University preprint no. CLNS-18/447 (1980) (unpublished).

[93] W. T. Giele, private communication.

[94] S. D. Protopopescu, private communication.

[95] F. Carminati *et al.*, "GEANT Users' Guide", CERN Program Library, December 1991 (unpublished).

[96] A. Jonkheere, "DØGEANT user guide", DØ internal note 969 (1989) (unpublished).

[97] N. A. Graf, "The DØ Shower Library", (Presented at the 1^{st} International Conference on Calorimetry in High Energy Physics, FNAL, October 1990, Proceedings Ed. D. Anderson *et al.*, World Scientific, p. 539)

[98] "Level 1 simulator user's guide", `D0$LEVEL1:L1SIM.DOC`, DØ online documentation (1992) (unpublished).

[99] D. Claes, "Simulation of the Level 2 trigger", `D0$LEVEL2:L2SIM.DOC`, DØ online documentation (1994) (unpublished).

[100] D. Chakraborty and M. Fatyga, "QCD Backgrounds to $t\bar{t}{\rightarrow}e + jets$: A Study of fake electron probabilities", DØ internal note in preparation (1994).

[101] D. Chakraborty and M. Fatyga, "QCD Backgrounds to Electroweak Signals: A Study of fake electron and fake photon probabilities", DØ internal note 1753 (1993) (unpublished).

[102] M. Fortner, "Trigger list, version 7.2", DØNEWS 1265 (GENERAL), (1993) (unpublished).

[103] F. A. Berends, W. T. Giele, H. Kuijf and B. Tausk, Nucl. Phys., **B357**, 32 (1991).

[104] D. Chakraborty, "Harmonic Moments: an alternative shape-variable for $t\bar{t} \rightarrow lepton + jets$ analysis", DØ internal note 2337 (1994) (in preparation).

[105] V. D. Barger and R. J. N.Phillips, “Collider Physics”, (Addison Wesley, Menlo Park, CA, 1989) p. 280.

[106] P. D. Grannis, “Search for the top quark: results from the DØ detector”, (Presented at the 27^{th} international conference on High Energy Physics, Glasgow, July 1994).

[107] R. Raja, "A search for the top quark in the lepton + jets channel using Fisher Discriminants”, DØ internal note in preparation.

[108] H. E. Miettinen, R. Ou, L. Holmstrom and S. Sain, “Searching for Top with Neural Nets. II. NN versus Probability Density Estimation”, DØ internal note 1931 (1993) (unpublished).

[109] E. Amidi, P. Bhat, D. Chakraborty and H. Prosper, “Search for $t\bar{t}$ events in $e+jets$ channel using Neural Networks”, DØ internal note 2334 (1994) (in preparation).

[110] P. Bhat, “Search for the top quark using multivariate analysis techniques”, DØ internal note 2226 (1994) (Presented at the DPF meeting, Albuquerque, NM, August, 1994).