Publications co-authored by Dr. Dhiman Chakraborty

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My contribution: A primary author.

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*3. "Directly Coupled tiles as elements of a scintillator calorimeter with MPPC readout", G. Blazey *et al.*, NIM A **605** 277 (2009).

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*4. "Investigation of a solid-state photodetector", D. Beznosko *et al.*, NIM A **553** 438 (2005).

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My contribution: Identification of τ leptons.

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My contribution: I served on the editorial board for the analysis, which also derives heavily from the methods I developed in Run 1. (An *editorial board* is an internal review committee appointed by the spokespersons to guide each DØ analysis from its initial working group acceptance through full collaboration review.)

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My contribution: I served on the editorial board for the analysis, which also derives heavily from the methods I developed in Run 1.

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My contribution: From 2001 to 2005 I co-led the τ particle identification group at DØ, which made this first measurement of its kind from the Tevatron possible. I also introduced the use of artificial neural networks for τ identification, which forms the basis of this analysis.

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110. "Search for the Rare Decay $B_s^0 \to \phi\mu^+\mu-$ with the DØ Detector", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D Rap. Comm. **74**, 031107 (2006). hep-ex/0604015.

111. "Measurement of $B(t \to bW)/B(t \to qW)$ at $\sqrt{(s)} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **639**, 616 (2006). hep-ex/0603002.

112. "Direct Limits on B_s^0 Oscillation Frequency", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **97**, 021802 (2006). hep-ex/0603029.

113. "Search for Pair Production of Second Generation Leptoquarks in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **636**, 183 (2006). hep-ex/0601047.

114. "Measurement of the isolated photon cross section in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **639**, 151 (2006). hep-ex/0511054.

115. "Search for the Higgs Boson in $H \to WW^*$ Decays in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **96**, 011801 (2006). hep-ex/0508054.

*116. "The Upgraded DØ Detector", V. M. Abazov *et al.* (the DØ Collaboration), Nucl. Instr. and Methods **A565**, 463 (2006). hep-physics/0507191.

My contribution: I contributed to the design of the Forward Preshower Detector, an important component of the DØ detector upgrade for Run 2.

*117. "Investigation of a Solid-state Photodetector", D. Beznosko *et al.* (the DØ Collaboration), Nucl. Instr. and Methods **A545**, 727 (2005).

My contribution: A particular kind of Solid-state Photodetectors, called "Silicon PhotoMultipliers" (SiPM), are a key component at the heart of the R&D program described above. Recent emergence of SiPMs has helped us overcome the many difficulties with other types of photon detectors that would have negated the viability of the scintillator option for the proposed ILC hadronic calorimeter in the past. The detailed characterization performed by our group established that SiPMs can meet the stringent criteria required for the application, which, if chosen, will draw worldwide federal investment in excess of $100 million.

118. "Measurement of the lifetime difference in the B_s system", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **95**, 171801 (2005). hep-ex/0507084.

119. "Measurement of semileptonic branching fractions of B mesons to narrow D^{**} states", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **95** 171803 (2005). hep-ex/0507046.

120. "Search for large extra spatial dimensions in dimuon production at DØ", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **95** 161602 (2005). hep-ex/0506063.

121. "Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV in dilepton final states", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **626**, 55 (2005). hep-ex/0505082.

122. "Search for single top quark production in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **622** 265-276 (2005). hep-ex/0505063.

123. "Search for right-handed W bosons in top quark decay", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D Rap. Comm **72**, 011104 (R) (2005). hep-ex/0505031.

124. "Search for Randall-Sundrum Gravitons in Dilepton and Diphoton Final States", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **95**, 091801 (2005). hep-ex/0505018.

125. "Search for supersymmetry via associated production of charginos and neutralinos using trilepton final states", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **95** 151805 (2005). hep-ex/0504032.

126. "Measurement of the $t\bar{t}$ cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV using lepton plus jets events with lifetime b-tagging", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **626**, 35 (2005). hep-ex/0504058.

*127. "Measurement of the $t\bar{t}$ cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV using kinematic characteristics of lepton plus jet events", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **626**, 45 (2005). hep-ex/0504043.

My contribution: This is an extension of my thesis research. Presently I am a member of the editorial board for this analysis.

128. "Search for neutral supersymmetric Higgs boson in multijet events at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **95**, 151801 (2005). hep-ex/0504018.

129. "Production of WZ Events in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV and Limits on Anomalous WWZ Couplings", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **95** 141802, (2005). hep-ex/0504019.

130. "Measurement of the $p\bar{p} \to W\gamma + X$ Cross section and Limits on Anomalous $WW\gamma$ Couplings at $\sqrt{(s)} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D Rap. Comm. **71**, 091108 (2005). hep-ex/0503048.

131. "Measurement of inclusive differential cross sections for $\Upsilon(1S)$ production in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett., **232001** (2005). hep-ex/0502030.

132. "Study of $Z\gamma$ events and limits on anomalous $ZZ\gamma$ and $Z\gamma\gamma$ couplings in $p\bar{p}$ collisions at $\sqrt{(s)} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **95**, 051802 (2005). hep-ex/0502036.

133. "Search for first-generation scalar leptoquarks in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D Rap. Comm. **71**, 071104(R)(2005). hep-ex/0412029.

*134. "First measurement of $\sigma(p\bar{p} \to Z)B(Z \to \tau\tau)$ at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D **71**, 072004 (2005). hep-ex/0412020.

My contribution: Same as the "Search for Neutral Higgs Bosons Decaying to tau pairs in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV", paper above.

135. "A search for anomalous heavy-flavor quark production in association with W bosons", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **94**, 152002 (2005). hep-ex/0411084.

136. "A Measurement of the Ratio of Inclusive Cross Sections $p\bar{p} \to Zb/p\bar{p} \to Zj$ at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **94**, 161801 (2005). hep-ex/0410078.

137. "Measurement of the WW Production Cross Section in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **94**, 151801 (2005). hep-ex/0410066.

138. "A Search for $Wb\bar{b}$ and WH Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **94** 091802 (2005). hep-ex/0410062.

139. "Measurement of the Λ_b Lifetime in the Decay $\Lambda_b \to J/\psi\Lambda$ with the DØ Detector", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **94** 102001 (2005). hep-ex/0410054.

140. "Measurement of the Ratio of B^+ and B_0 Lifetimes", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **94**, 182001 (2005). hep-ex/0410052.

141. "A Search for the Flavor-Changing Neutral Current Decay $B_s^0 \to \mu^+\mu^-$ in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **94**, 071802 (2005). hep-ex/0410039.

142. "Measurement of the B_s^0 Lifetime in the Exclusive Decay Channel $B_s^0 \to J/\psi\phi$", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **94**, 042001 (2005). hep-ex/0409043.

143. "Measurement of Dijet Azimuthal Decorrelations at Central Rapidities in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **94**, 221801 (2005). hep-ex/0409040.

144. "Search for Supersymmetry with Gauge-Mediated Breaking in Diphoton Events at DØ", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **94**, 041801 (2005). hep-ex/0408146.

*145. "Small scintillating cells as the active elements in a digital hadron calorimeter for the e^+e^- linear collider" A. Dyshkant *et al.* (the DØ Collaboration), J. Phys. G. **30**, N1-N16 (2004),

My contribution: This is a pioneering work being done by the Experimental High Energy Physics group at NIU, simultaneously with and independently of a group in Europe. The work, which has drawn praise in peer review and attracted healthy federal funding, is widely considered the strongest candidate in a field of three. This hardware R&D, together with extensive simulation and development of pattern-recognition algorithms to make the best use of it forms a coherent research program that has been of the highest priority to the NIU group since 2002.

146. "Observation and Properties of the $X(3872)$ Decaying to $J/psi\pi^+\pi^-$ in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **93**, 162004 (2004). hep-ex/0405004.

147. "Search for Doubly-charged Higgs Boson Production in the Decay $H^{++}H^{--} \to \mu^+\mu^+\mu^-\mu^-$ with the DØ Detector at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett **93**, 141801 (2004). hep-ex/040415.

*148. "Measurement of the Top Quark Mass in Alljets Events", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **606**, 25 (2005). hep-ex/0410086.

My contribution: I led the working group that oversaw the initial phase this analysis. I also chaired the editorial board.

149. "Combination of CDF and DØ results on W boson mass and width", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D **70**, 092008 (2004). hep-ex/0311039v2.

*150. "Helicity of the W Boson in Lepton + Jets $t\bar{t}$ Events", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **617**, 1 (2005). hep-ex/0404040.

My contribution: I led the working group that initiated this analysis.

151. "Search for Pair Production of Light Scalar Top Quarks in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **93**, 011801, (2004). hep-ex/0308033.

*152. "Improved Measurement of the Top Quark Mass", V. M. Abazov *et al.* (the DØ Collaboration), Nature **429**, 638 (2004). hep-ex/0406031.

My contribution: I led the working group that oversaw the initial phase of this analysis, one of the most important from DØ.

153. "Search for New Particles in the Two-Jet Decay Channel with the DØ Detector", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D Rapid Comm. **69**, 111101 (2004). hep-ex/0308033.

154. "Search for 3- and 4-Body Decays of the Scalar Top Quark in Proton-Antiproton Collisions at $\sqrt{s} = 1.8$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **581**, 144 (2004).

155. "Observation of diffractively produced W and Z bosons in $\overline{p}p$ Collisions at $\sqrt{(s)} = 1.8$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **574**, 169 (2003).

*156. "Search for Narrow $t\bar{t}$ Resonances in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **92**, 221801 (2004). hep-ex/0307079.

My contribution: I worked closely with the graduate student who was the primary author. Also led the working group that oversaw this analysis.

157. "Search for large extra dimensions in the monojet + $\not{E}_T$ channel with the DØ detector", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **90**, 251802 (2003). hep-ex/030214.

158. "Multiple jet production at low transverse energies in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D **67**, 052001 (2003). hep-ex/0207046.

*159. "$t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D **67**, 012004 (2003). hep-ex/0205019.

My contribution: My thesis analysis and its continuation formed an important part of this final paper on the Run 1 "cross section" series.

160. "Search for mSUGRA in single electron events with jets and large missing transverse energy in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D **66**, 112001 (2002). hep-ex/0205002.

161. "Improved W boson mass measurement with the DØ detector", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D **66**, 012001 (2002). hep-ex/0204014.

162. "A direct measurement of the W boson width", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D **66**, 032008 (2002). hep-ex/0204009.

163. "Search for Leptoquark Pairs Decaying to $\nu\nu+$ jets in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **88**, 191801 (2002). hep-ex/0111047.

163. "Search for R-parity Violating Supersymmetry in Dimuon and Four-Jets Channel", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **89**, 171801 (2002), hep-ex/0111053.

164. "The inclusive jet cross section in $p\bar{p}$ collisions at $\sqrt{s}$ = 1.8 TeV using the k_T algorithm", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **525**, 211 (2002). hep-ex/019041.

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166. "The ratio of isolated photon cross sections in $p\bar{p}$ collisions at $\sqrt{s}$ = 630 and 1800 GeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **87**, 251805 (2001). hep-ex/0106026.

167. "A search for the scalar top quark in $p\bar{p}$ collisions at $\sqrt{s}$ = 1.8 TeV", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **88**, 171802 (2002). hep-ex/0108018.

168. "Measurement of the ratio of differential cross sections for W and Z boson production as a function of transverse momentum", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B. **517**, 299 (2001). hep-ex/0107102.

169. "Search for Single Top Production at DZero Using Neural Networks", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Lett. B **517**, 282 (2001). hep-ex/0106059.

170. "Search for New Physics Using QUAERO: A General Interface to DZero Data", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **87**, 012004 (2001). hep-ex/0106039.

171. "Search for First-Generation Scalar and Vector Leptoquarks", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. D **64**, 092004 (2001). hep-ex/0105072.

*172. "Direct Search for Charged Higgs Bosons in Decays of Top Quarks", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **88**, 151803 (2002). hep-ex/0102039.

My contribution: I performed this analysis together with a graduate student. Also led the working group that oversaw this analysis.

173. "Search for Heavy Particles Decaying into Electron-Positron Pairs in $p\bar{p}$ Collisions", V. M. Abazov *et al.* (the DØ Collaboration), Phys. Rev. Lett. **87**, 061802 (2001). hep-ex/0102048.

174. "High-p_T Jets in $p\bar{p}$ Collisions at $\sqrt{s}$ = 630 and 1800 GeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **64**, 032003 (2001). hep-ex/0012046.

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176. "A Quasi-Model-Independent Search for New High pT Physics at DZero", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **86**, 3712 (2001). hep-ex/0011071.

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179. "Measurement of the Angular Distribution of Electrons from $W \to e\nu$ Decays Observed in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **63** 072001 (2001). hep-ex/0009034.

180. "Ratios of Multijet Collisions in $p\bar{p}$ Collisions at $\sqrt{(s)}$=1800 GeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **86** 1955 (2001). hep-ex/0009012.

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183. "Cross Section for b jet production in $\overline{p}p$ collisions at $\sqrt{(s)} = 1.8$ TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **85**, 5068 (2000). hep-ex/0008021.

*184. "Search for Electroweak Production of Single Top Quarks in $\overline{p}p$ Collisions", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D Rapid Comm. **63** 031101 (2001). hep-ex/000824.

My contribution: I led the working group that oversaw this analysis.

185. "Search for New Physics in $e\mu X$ Data at DØ Using Sleuth: A Quasi-Model-Independent Search Strategy for New Physics", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **62**, 92004 (2000). hep-ex/0006011.

186. "Search for R-parity Violation in Multilepton Final States in pbarp Collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D Rapid Comm. **62**, 071701 (2000). hep-ex/000534.

*187. "Spin Correlation in $t\bar{t}$ Production from $p\bar{p}$ Collisions at $\sqrt{s} = 1800$ GeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **85**, 256 (2000), hep-ex/0002058.

My contribution: I led the working group that oversaw this analysis.

188. "A Search for Dilepton Signatures from Minimal Low-energy Supergravity in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D Rapid Comm. **63**, 091102 (2001). hep-ex/9907048v2.

189. "Limits on Quark Compositeness from High Energy Jets in $p\bar{p}$ Collisions at 630 and 1800 GeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D Rapid Comm. **62**, 031101 (2000). hep-ex/9912023.

190. "Hard Single Diffraction in $p\bar{p}$ Collisions at $\sqrt{s} = 630$ and 1800 GeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Lett. B **531**, 52 (2002). hep-ex/9912061.

191. "A measurement of the $W \to \tau\nu$ Production Cross Section in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **84**, 5710 (2000). hep-ex/9912065.

192. "Limits on Anomalous $WW\gamma$ and WWZ Couplings from $WW/WZ \to e\nu$jj Production", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **62**, 052005 (2000). hep-ex/9912033.

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196. "A measurement of the W boson mass using electrons at large rapidities", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **84**, 222 (2000). hep-ex/9909030.

197. "Differential production cross section of Z bosons as a function of transverse momentum at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **84**, 2792 (2000). hep-ex/9909020.

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200. "Measurement of the inclusive differential cross section for Z bosons as a function of transverse momentum produced in $\overline{p}p$ collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **61**, 032004 (2000). hep-ex/9907009.

201. "Extraction of the width of the W boson from measurements of $\sigma(p\bar{p} \to W + X) \times \mathrm{Br}(W \to e\nu)$ and $\sigma(p\bar{p} \to Z + X) \times \mathrm{Br}(Z \to ee)$ and their ratio", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **61**, 072001 (2000). hep-ex/9906025.

202. "The $b\bar{b}$ production cross section and angular correlations in $\overline{p}p$ collisons at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Lett. B **487**, 264 (2000). hep-ex/9905024.

203. "Search for R-parity violation supersymmetry in the dielectron channel", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **83**, 4476 (1999). hep-ex/9907019.

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205. "Evidence of color coherence effects in W+jets events from $\overline{p}p$ collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Lett. B **464**, 145 (1999). hep-ex/9908017.

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207. "Search for squarks and gluinos in events containing jets and a large imbalance in transverse momentum", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **83**,4937 (1999). hep-ex/9902013.

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*210. "Search for charged Higgs bosons in decays of top quark pairs", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **82**, 4975 (1999). hep-ex/9902028.

My contribution: I performed this analysis. Also led the working group that oversaw this analysis and a few others.

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213. "Search for nonstandard Higgs bosons using high mass photon pairs in $\overline{p}p \to \gamma\gamma + 2$ jets at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **82**, 2244 (1999). hep-ex/9811029.

214. "Probing hard color-singlet exchange in $\overline{p}p$ collisions at $\sqrt{s}$=630 GeV and 1800 GeV.", B. Abbott *et al.* (the DØ Collaboration), Phys. Lett. B **440**, 189 (1998). hep-ex/9809016.

215. "Measurement of the Top Quark Pair Production Cross Section in $\overline{p}p$ Collisions using Multijet Final States", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **60**, 012001 (1999). hep-ex/9808034.

216. "Search for Squarks and Gluinos in Single-Photon Events with Jets and Large Missing Transverse Energy in $\overline{p}p$ Collision at $\sqrt{s}$=1.8 TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **82**, 29 (1999). hep-ex/9808010.

217. "Measurement of the Top Quark Mass in the Dilepton Channel", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **60**, 052001 (1999). hep-ex/9808029.

218. "Small Angle J/Psi Production in $\overline{p}p$ Collisions at $\sqrt{s}$=1.8 TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **82**, 35 (1999). hep-ex/9807029.

219. "The Inclusive Jet Cross Section in $\overline{p}p$ Collisions at $\sqrt{s}$ = 1.8 TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **82**, 2451 (1999). hep-ex/9807018.

220. "The Dijet Mass Spectrum and a Search for Quark Compositeness in $\overline{p}p$ Collisions at $\sqrt{s}$ = 1.8 TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **82**, 2457 1999; hep-ex/9807014.

221. "Determination of the Absolute Jet Energy Scale in the DØ Calorimeters", B. Abbott *et al.* (the DØ Collaboration), Nucl. Instrum. Methods Phys. Res. A**424**, 352 (1999). hep-ex/9805009.

222. "Search for Heavy Pointlike Dirac Monopoles", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **81**, 524 (1998). hep-ex/9803023.

223. "Limits on anomalous $WW\gamma$ and WWZ couplings", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **58** Rapid Communications, 031102 (1998). hep-ex/9803017.

224. "Search for Charge–1/3 Third Generation Leptoquarks in $\overline{p}p$ Collisions at $\sqrt{s}$= 1.8 TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **81**, 38 (1998). hep-ex/9803009.

225. "Limits on $WW\gamma$ and WWZ couplings from W boson pair production", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **58** Rapid Communications, 051101 (1998). hep-ex/9803004.

226. "Measurement of the Shape of the Transverse Momentum Distribution of W Bosons Produced in $\overline{p}p$ Collisions at $\sqrt{s}$= 1.8 TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **80**, 5498 (1998). hep-ex/9803003.

227. "Search for the decay $b \to X_s\mu^+\mu^-$", B. Abbott *et al.* (the DØ Collaboration), Phys. Lett. B **423**, 419, 1998; hep-ex/9801027.

*228. "Direct measurement of the top quark mass by the DØ Collaboration", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **58**, 052001 (1998). hep-ex/9801025.

My contribution: This is a more detailed version of the first "top mass" letter listed below.

229. "A measurement of the W boson mass", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **58**, 092003 (1998). hep-ex/9712029.

230. "A Measurement of the W Boson Mass at the Fermilab $p\bar{p}$ Collider", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **80**, 3008 (1998). hep-ex/9712028.

231. "Search for First Generation Scalar Leptoquark Pairs in $\overline{p}p$ Collisions at $\sqrt{s}$ = 1.8 TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **80**, 2051 (1998). hep-ex/9710032.

232. "$Z\gamma$ production in $\overline{p}p$ collisions at $\sqrt{s}$=1.8 TeV and limits on anomalous $ZZ\gamma$ and $Z\gamma\gamma$ couplings", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **57** Rapid Communications, 3817 (1998). hep-ex/9710031.

233. "Determination of the mass of the W boson using the DØ detector at the Tevatron", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. D **58**, 012002 (1998). hep-ex/9710007.

234. "Experimental Search for Chargino and Neutralino Production in Supersymmetry Models with a Light Gravitino", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **80**, 442 (1998). hep-ex/9708005.

235. "Search for Scalar Leptoquark Pairs Decaying to Electrons and Jets in $\overline{p}p$ Collisions", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **79**, 4321 (1997). hep-ex/9707033.

236. "Measurement of Dijet Angular Distributions and Search for Quark Compositeness", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **80**, 666 (1998). hep-ex/9707016.

*237. "Measurement of the Top Quark Mass Using Dilepton Events", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **80**, 2063 (1998). hep-ex/9706014.

My contribution: I worked on background modeling.

238. "Color coherent radiation in multijet events from $\overline{p}p$ collisions at $\sqrt{s}$= 1.8 TeV", B.Abbott *et al.* (the DØ Collaboration), Phys. Lett. B **414**, 419 (1997). hep-ex/9706012.

239. "Search for Trilepton Signatures from Associated Gaugino Pair Production", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **80**, 1591 (1998). hep-ex/9705015.

240. "Limits on WWZ and $WW\gamma$ couplings from $\overline{p}p \to e\nu jjX$ events at $\sqrt{s}$ = 1.8 TeV", B. Abbott *et al.* (the DØ Collaboration), Phys. Rev. Lett. **79**, 1441 (1997). hep-ex/9705010.

*241. "Measurement of the Top Quark Pair Production Cross Section in $\overline{p}p$ Collisions", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **79**, 1203 (1997). hep-ex/9704015.

My contribution: This is a continuation of the "observation" work listed above. The result is improved by using a larger volume of data and more refined analysis techniques.

242. "Studies of Gauge Boson Pair Production and Trilinear Couplings", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. D **56**, 6742 (1997). hep-ex/9704004.

*243. "Direct Measurement of the Top Quark Mass", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **79**, 1197 (1997). hep-ex/9703008.

My contribution: I contributed to background modeling and finding discriminators to optimize signal significance.

244. "Study of the $ZZ\gamma$ and $Z\gamma\gamma$ Couplings in $Z\gamma \to \nu\nu\gamma$ Production", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **78**, 3640 (1997). hep-ex/9702011.

245. "Search for Top Squark Pair Production in the Dielectron Channel", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. D **57**, 589 (1998).

246. "Search for Diphoton Events with Large Missing Transverse Energy in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **78**, 2070 (1997).

247. "Search for a Fourth Generation Charge -1/3 Quark via Flavor-Changing Neutral Current Decay", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev.Lett. **78**, 3818 (1997).

248. "Limits on Anomalous $WW\gamma$ Couplings from $\overline{p}\to W\gamma + X$ Events at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **78**, 3634 (1997).

249. "The Isolated Photon Cross Section in the Central and Forward Rapidity Region in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **77**, 5011 (1996).

250. "Search for Additional Neutral Gauge Bosons", S. Abachi *et al.* (the DØ Collaboration), Phys. Lett. B **385**, 471 (1996).

251. "Measurement of the W Boson Mass", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **77**, 3309 (1996).

252. "Search for Anomalous WW and WZ Production in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **77**, 3303 (1996).

253. "The Azimuthal Decorrelation of Jets Widely Separated in Rapidity", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **77**, 595 (1996).

254. "J/Ψ Production in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Lett. B **370**, 239 (1996).

*255. "Search for Light Top Squarks in $\overline{p}p$ Collisions at 1.8 TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **76**, 2222 (1996).

My contribution: I led the working group that oversaw this analysis.

256. "Search for Right-Handed W Bosons and Heavy W′ in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **76**, 3271 (1996).

257. "Search for $\widetilde{W_1}\widetilde{Z_2}$ via Trilepton Final States in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **76**, 2228 (1996).

258. "Jet Production via Strongly-Interacting Color-Singlet Exchange in $\overline{p}p$ Collisons" S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **76**, 734 (1996).

259. "Studies of Topological Distributions of Inclusive Three- and Four-Jet Events in $\overline{p}p$ Collisions at $\sqrt{s}$= 1800 GeV with the DØ Detector", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. D **53**, 6000 (1996).

260. "Second Generation Leptoquark Search in $\overline{p}p$ Collisions at 1.8 TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **75**, 3618 (1995).

261. "Search for Heavy W Bosons in 1.8 TeV $\overline{p}p$ Collisions", S. Abachi *et al.* (the DØ Collaboration), Phys. Lett. B **358**, 405 (1995).

262. "Transverse Energy Distributions within Jets in $\overline{p}p$ Collisions at 1.8 TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Lett. B **357**, 500 (1995).

*263. "Top Quark Search with the DØ 1992 – 93 Data Sample", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. D**52**, 4877 (1995).

My contribution: This is a more detailed version of the "search" letters listed below.

*264. "A Study of the Strong Coupling Constant Using W + Jets Processes", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **75**, 3226 (1995).

My contribution: I studied these processes in detail as they were the most serious background to my signal. I was in charge of porting and tuning the simulation program used to model these processes, and for producing large samples of such simulated events for the entire collaboration.

265. "W and Z Boson Production in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **75**, 1456 (1995).

266. "Measurement of the $WW\gamma$ Gauge Boson Coupling in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **75**, 1034 (1995).

267. "Limits on the Anomalous $ZZ\gamma$ and $Z\gamma\gamma$ Couplings in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **75**, 1028 (1995).

268. "Search for W Boson Pair Production in $\overline{p}p$ Collisions at at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **75**, 1023 (1995).

269. "Search for Squarks and Gluinos in $\overline{p}p$ Collisions at at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **75**, 618 (1995).

270. "Inclusive μ and b-Quark Production Cross Sections in $p\overline{p}$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **74**, 3548 (1995).

*271. "Observation of the Top Quark", S. Abachi *et al.* (the DØ Collaboration), Phys Rev. Lett. **74**, 2632 (1995).

My contribution: This paper, an important milestone in High Energy Physics, draws heavily on the continuation of my thesis research.

*272. "Search for High Mass Top Quark Production in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **74**, 2422 (1995).

My contribution: My thesis research forms a large part of this paper.

*273. "Rapidity Gaps between Jets in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **72**, 2332 (1994).

My contribution: I chaired the editorial board for this paper.

*274. "Search for the Top Quark in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **72**, 2138 (1994).

My contribution: My thesis research forms a large part of this paper.

275. "First Generation Leptoquark Search in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", S. Abachi *et al.* (the DØ Collaboration), Phys. Rev. Lett. **72**, 965 (1994).

*276. "The DØ Detector", S. Abachi *et al.* (the DØ Collaboration), Nucl. Instrum. Methods Phys. Res. A**338**, 185 (1994).

My contribution: I was involved in the commissioning and online monitoring of the Central Drift Chamber, which was a key component of the DØ detector in Run 1 (1991-1996). I also contributed to several aspects of calorimeter reconstruction software.

277. "Beam Tests of the DØ Uranium Liquid Argon End Calorimeters", S. Abachi *et al.* (the DØ Collaboration), Nucl. Instrum. Methods Phys. Res. A**324**, 53-76 (1993).