

## List of Authors

S. Alekhin <sup>1</sup>, G. Altarelli <sup>2,3</sup>, N. Amapane <sup>4</sup>, J. Andersen <sup>5</sup>, V. Andreev <sup>6</sup>, M. Arneodo <sup>7</sup>, V. Avati <sup>8</sup>,  
J. Baines <sup>9</sup>, R.D. Ball <sup>10</sup>, A. Banfi <sup>5</sup>, S.P. Baranov <sup>6</sup>, J. Bartels <sup>11</sup>, O. Behnke <sup>12</sup>, R. Bellan <sup>4</sup>, J. Blümlein <sup>13</sup>,  
H. Böttcher <sup>13</sup>, S. Bolognesi <sup>4</sup>, M. Boonekamp <sup>14</sup>, D. Bourilkov <sup>15</sup>, J. Braciník <sup>16</sup>, A. Bruni <sup>17</sup>, G. Bruni <sup>18</sup>,  
A. Buckley <sup>19</sup>, A. Bunyatyan <sup>20</sup>, C.M. Buttar <sup>21</sup>, J.M. Butterworth <sup>22</sup>, S. Butterworth <sup>22</sup>, M. Cacciari <sup>23</sup>,  
T. Carli <sup>24</sup>, G. Cerminara <sup>4</sup>, S. Chekanov <sup>25</sup>, M. Ciafaloni <sup>26</sup>, D. Colferai <sup>26</sup>, J. Collins <sup>27</sup>,  
A. Cooper-Sarkar <sup>28</sup>, G. Corcella <sup>2</sup>, M. Corradi <sup>29</sup>, B.E. Cox <sup>30</sup>, R. Croft <sup>31</sup>, Z. Czyczula <sup>32</sup>, A. Dainese <sup>33</sup>,  
M. Dasgupta <sup>2</sup>, G. Davatz <sup>34</sup>, L. Del Debbio <sup>2,10</sup>, Y. Delenda <sup>30</sup>, A. De Roeck <sup>24</sup>, M. Diehl <sup>35</sup>, S. Diglio <sup>3</sup>,  
G. Dissertori <sup>34</sup>, M. Dittmar <sup>34</sup>, J. Ellis <sup>2</sup>, K.J. Eskola <sup>36</sup>, T.O. Eynck <sup>37</sup>, J. Feltesse <sup>38</sup>, F. Ferro <sup>39</sup>,  
R.D. Field <sup>40</sup>, J. Forshaw <sup>30</sup>, S. Forte <sup>41</sup>, A. Geiser <sup>35</sup>, S. Gieseke <sup>42</sup>, A. Glazov <sup>35</sup>, T. Gleisberg <sup>43</sup>,  
P. Golonka <sup>44</sup>, E. Gotsman <sup>45</sup>, G. Grindhammer <sup>16</sup>, M. Grothe <sup>46</sup>, C. Group <sup>40</sup>, M. Groys <sup>45</sup>, A. Guffanti <sup>13</sup>,  
G. Gustafson <sup>47</sup>, C. Gwenlan <sup>28</sup>, S. Höche <sup>43</sup>, C. Hogg <sup>48</sup>, J. Huston <sup>49</sup>, G. Iacobucci <sup>18</sup>, G. Ingelman <sup>50</sup>,  
S. Jadach <sup>51</sup>, H. Jung <sup>35</sup>, J. Kalliopuska <sup>52</sup>, M. Kapishin <sup>53</sup>, B. Kersevan <sup>54</sup>, V. Khoze <sup>19</sup>, M. Klasen <sup>11,55</sup>,  
M. Klein <sup>13</sup>, B.A. Kniehl <sup>11</sup>, V.J. Kolhin <sup>36</sup>, H. Kowalski <sup>35</sup>, G. Kramer <sup>13</sup>, F. Krauss <sup>43</sup>, S. Kretzer <sup>56</sup>,  
K. Kutak <sup>11</sup>, J.W. Lämsä <sup>52</sup>, L. Lönnblad <sup>47</sup>, T. Laštovička <sup>24</sup>, G. Laštovička-Medin <sup>57</sup>, E. Laenen <sup>37</sup>,  
Th. Lagouri <sup>58</sup>, J.I. Latorre <sup>59</sup>, N. Lavesson <sup>47</sup>, V. Lendermann <sup>60</sup>, E. Levin <sup>45</sup>, A. Levy <sup>45</sup>, A.V. Lipatov <sup>61</sup>,  
M. Lublinsky <sup>62</sup>, L. Lytkin <sup>63</sup>, T. Mäki <sup>52</sup>, L. Magnea <sup>64</sup>, F. Maltoni <sup>65</sup>, M. Mangano <sup>2</sup>, U. Maor <sup>45</sup>,  
C. Mariotti <sup>66</sup>, N. Marola <sup>52</sup>, A.D. Martin <sup>19</sup>, A. Meyer <sup>35</sup>, S. Moch <sup>13</sup>, J. Monk <sup>30</sup>, A. Moraes <sup>21</sup>,  
A. Morsch <sup>24</sup>, L. Motyka <sup>11</sup>, E. Naftali <sup>45</sup>, P. Newman <sup>67</sup>, A. Nikitenko <sup>68</sup>, F. Oljemark <sup>52</sup>, R. Orava <sup>52</sup>,  
M. Ottela <sup>52</sup>, K. Österberg <sup>52</sup>, K. Peters <sup>30,35</sup>, F. Petrucci <sup>44</sup>, A. Piccione <sup>64</sup>, A. Pilkington <sup>30</sup>,  
K. Piotrzkowski <sup>69</sup>, O.I. Piskounova <sup>6</sup>, A. Proskuryakov <sup>45</sup>, A. Prygarin <sup>45</sup>, J. Pumplin <sup>70</sup>, K. Rabbertz <sup>71</sup>,  
R. Ranieri <sup>26</sup>, V. Ravindran <sup>72</sup>, B. Reisert <sup>73</sup>, E. Richter-Was <sup>74</sup>, L. Rinaldi <sup>18</sup>, P. Robbe <sup>75</sup>, E. Rodrigues <sup>76</sup>,  
J. Rojo <sup>60</sup>, H. Ruiz <sup>24</sup>, M. Ruspa <sup>18</sup>, M.G. Ryskin <sup>77</sup>, A. Sabio Vera <sup>11</sup>, G.P. Salam <sup>78</sup>, A. Schälicke <sup>43</sup>,  
S. Schätzel <sup>35</sup>, T. Schörner-Sadenius <sup>79</sup>, I. Schienbein <sup>80</sup>, F-P. Schilling <sup>24</sup>, F. Schrempp <sup>35</sup>, S. Schumann <sup>43</sup>,  
M.H. Seymour <sup>81</sup>, F. Siegert <sup>24</sup>, T. Sjöstrand <sup>2,47</sup>, M. Skrzypek <sup>51</sup>, J. Smith <sup>37,82</sup>, M. Smizanska <sup>83</sup>,  
H. Spiesberger <sup>84</sup>, A. Stašto <sup>85</sup>, H. Stenzel <sup>86</sup>, W.J. Stirling <sup>19</sup>, P. Szczypka <sup>31</sup>, S. Tapprogge <sup>52,84</sup>,  
C. Targett-Adams <sup>22</sup>, M. Tasevsky <sup>87</sup>, T. Teubner <sup>88</sup>, R.S. Thorne <sup>5</sup>, A. Tonazzo <sup>3</sup>, A. Tricoli <sup>28</sup>, N. Tuning <sup>37</sup>,  
J. Turnau <sup>85</sup>, U. Uwer <sup>12</sup>, P. Van Mechelen <sup>87</sup>, R. Venugopalan <sup>56</sup>, M. Verducci <sup>24</sup>, J.A.M. Vermaseren <sup>37</sup>,  
A. Vogt <sup>19</sup>, R. Vogt <sup>89</sup>, B.F.L. Ward <sup>90</sup>, Z. Was <sup>44</sup>, G. Watt <sup>35</sup>, B.M. Waugh <sup>22</sup>, C. Weiser <sup>91</sup>, M.R. Whalley <sup>19</sup>,  
M. Wing <sup>22</sup>, J. Winter <sup>43</sup>, S.A. Yost <sup>90</sup>, G. Zanderighi <sup>73</sup>, N.P. Zotov <sup>61</sup>

- <sup>1</sup> Institute for High Energy Physics, 142284 Protvino, Russia  
<sup>2</sup> CERN, Department of Physics, Theory Unit, CH 1211 Geneva 23, Switzerland  
<sup>3</sup> Dipartimento di Fisica “E.Amaldi”, Università Roma Tre and INFN, Sezione di Roma Tre, via della Vasca Navale 84, I 00146 Roma, Italy  
<sup>4</sup> Torino University and INFN Torino, Italy  
<sup>5</sup> Cavendish Laboratory, University of Cambridge, Madingley Road, Cambridge, CB3 0HE, UK  
<sup>6</sup> P.N. Lebedev Physical Institute of the Russian Academy of Science, Moscow, Russia  
<sup>7</sup> Università del Piemonte Orientale, Novara, and INFN-Torino, Italy  
<sup>8</sup> CERN, Geneva, Switzerland, and Case Western Reserve University, Cleveland, OH, USA  
<sup>9</sup> Rutherford Laboratory, UK  
<sup>10</sup> School of Physics, University of Edinburgh, Edinburgh EH9 3JZ, UK  
<sup>11</sup> II. Institut für Theoretische Physik, Universität Hamburg Luruper Chaussee 149, D-22761 Hamburg, Germany  
<sup>12</sup> Universität Heidelberg, Philosophenweg 12 69120 Heidelberg, Germany  
<sup>13</sup> DESY, Platanenallee 6, D 15738 Zeuthen, Germany  
<sup>14</sup> Service de physique des particules, CEA/Saclay, 91191 Gif-sur-Yvette CEDEX, France  
<sup>15</sup> University of Florida, Gainesville, FL 32611, USA  
<sup>16</sup> Max-Planck-Institut für Physik, München, Germany  
<sup>17</sup> INFN Bologna, Via Irnerio 46, 40156 Bologna, Italy  
<sup>18</sup> INFN Bologna and University of Eastern Piedmont, Italy  
<sup>19</sup> Institute for Particle Physics Phenomenology, University of Durham, DH1 3LE, UK  
<sup>20</sup> Yerevan Physics Institute, Armenia and MPI-K Heidelberg, Germany  
<sup>21</sup> Dept. of Physics and Astronomy, University of Glasgow, UK  
<sup>22</sup> Dept. of Physics and Astronomy, University College London, UK  
<sup>23</sup> LPTHE - Université P. et M. Curie (Paris 6), Paris, France  
<sup>24</sup> CERN, Department of Physics, CH 1211 Geneva 23, Switzerland  
<sup>25</sup> HEP Division, Argonne National Laboratory, 9700 S. Cass Avenue, Argonne, IL 60439, USA  
<sup>26</sup> Dipartimento di Fisica, Università di Firenze and INFN, Sezione di Firenze, I 50019 Sesto Fiorentino, Italy  
<sup>27</sup> Physics Department, Penn State University, USA  
<sup>28</sup> Department of Physics, Nuclear and Astrophysics Lab., Keble Road, Oxford, OX1 3RH, UK  
<sup>29</sup> INFN Bologna, via Irnerio 46, Bologna, Italy  
<sup>30</sup> School of Physics and Astronomy, The University of Manchester, Manchester M13 9PL, UK  
<sup>31</sup> University of Bristol, Bristol, UK  
<sup>32</sup> Institute of Physics, Jagiellonian University, Krakow, Poland and Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark  
<sup>33</sup> University and INFN, Padova, Italy  
<sup>34</sup> Institute for Particle Physics, ETH-Zürich Hönggerberg, CH 8093 Zürich, Switzerland  
<sup>35</sup> DESY, Notkestrasse 85, D 22603 Hamburg, Germany  
<sup>36</sup> Department of Physics, University of Jyväskylä, Jyväskylä, Finland  
<sup>37</sup> NIKHEF Theory Group, Kruislaan 409, 1098 SJ Amsterdam, The Netherlands  
<sup>38</sup> DSM/DAPNIA, CEA, Centre d’Etudes de Saclay, F 91191 Gif-sur-Yvette, France  
<sup>39</sup> University of Genova and INFN-Genova, Italy  
<sup>40</sup> Dept. of Physics, University of Florida, USA  
<sup>41</sup> Dipartimento di Fisica, Università di Milano, INFN Sezione di Milano, Via Celoria 16, I 20133 Milan, Italy  
<sup>42</sup> Institut für Theoretische Physik, Universität Karlsruhe, 76128 Karlsruhe, Germany  
<sup>43</sup> Institut für Theoretische Physik, TU Dresden, D-01062 Dresden, Germany  
<sup>44</sup> CERN, 1211 Geneva 23, Switzerland, and Institute of Nuclear Physics, ul. Radzikowskiego 152, 31-342 Kraków, Poland  
<sup>45</sup> HEP Department, School of Physics and Astronomy, Raymond and Beverly Sackler Faculty of Exact Science, Tel Aviv University, Tel Aviv, 69978, Israel

- 46 University of Torino and INFN-Torino, Italy; also at University of Wisconsin, Madison, WI, USA  
47 Dept. of Theoretical Physics, Lund University, Sweden  
48 University of Wisconsin, Madison, WI, USA  
49 Department of Physics and Astronomy, Michigan State University, E. Lansing, MI 48824, USA  
50 High Energy Physics, Uppsala University, Box 535, SE 75121 Uppsala, Sweden  
51 Institute of Nuclear Physics, Academy of Sciences, ul. Radzikowskiego 152, 31-342 Cracow,  
Poland and CERN, Department of Physics, Theory Unit, CH 1211 Geneva 23, Switzerland  
52 High Energy Physics Division, Department of Physical Sciences, University of Helsinki and  
Helsinki Institute of Physics, P.O. Box 64, FIN-00014, Finland  
53 JINR Dubna, Russia  
54 Faculty of Mathematics and Physics, University of Ljubljana, Jadranska 19, SI-1000, Slovenia  
Experimental Particle Physics Department, Jozef Stefan Institute, P.P. 3000, Jamova 39,  
SI-1000 Ljubljana, Slovenia  
55 Laboratoire de Physique Subatomique et de Cosmologie, Université Joseph  
Fourier/CNRS-IN2P3, 53 Avenue des Martyrs, 38026 Grenoble, France  
56 Brookhaven National Laboratory, Upton, NY 11973, USA  
57 University of Podgorica, Cetinjski put bb, CNG 81000 Podgorica, Serbia and Montenegro  
58 Institute of Nuclear and Particle Physics, Charles University, Prague, Czech Republic  
59 Departament d'Estructura i Constituents de la Matèria, Universitat de Barcelona, Diagonal 647, E  
08028 Barcelona, Spain  
60 Kirchhoff-Institut für Physik, Universität Heidelberg, Im Neuenheimer Feld 227, 69120  
Heidelberg, Germany  
61 D.V. Skobeltsyn Institute of Nuclear Physics, Moscow, Russia  
62 University of Connecticut, USA  
63 MPI-K Heidelberg, Germany and JINR Dubna, Russia  
64 Dipartimento di Fisica Teorica, Università di Torino and INFN Sezione di Torino, Via P. Giuria 1,  
I 10125 Torino, Italy  
65 Institut de Physique Théorique, Université Catholique de Louvain, Chemin du Cyclotron, 2,  
B-1348, Louvain-la-Neuve, Belgium  
66 INFN Torino, Italy  
67 School of Physics and Astronomy, University of Birmingham, B15 2TT, UK  
68 Imperial College, London, UK  
69 Institut de Physique Nucléaire, Université Catholique de Louvain, Louvain-la-Neuve, Belgium  
70 Department of Physics and Astronomy, Michigan State University, E. Lansing, MI 48824, USA  
71 University of Karlsruhe, EKP, Postfach 6980, D-76128 Karlsruhe, Germany  
72 Harish-Chandra Research Institute, Chhatnag Road, Jhunsi, Allahabad, India  
73 Fermi National Accelerator Laboratory, Batavia, IL 60126, USA  
74 Institute of Physics, Jagiellonian University, 30-059 Krakow, ul. Reymonta 4, Poland. Institute of  
Nuclear Physics PAN, 31-342 Krakow, ul. Radzikowskiego 152, Poland.  
75 Laboratoire de l'Accélérateur Linéaire, Université Paris-Sud, 91898 Orsay, France  
76 NIKHEF, Amsterdam, The Netherlands  
77 Petersburg Nuclear Physics Institute, Gatchina, St. Petersburg, Russia  
78 LPTHE, Universities of Paris VI and VII and CNRS, F 75005, Paris, France  
79 University of Hamburg, IExPh, Luruper Chaussee 149, D-22761 Hamburg, Germany  
80 Southern Methodist University Dallas, 3215 Daniel Avenue, Dallas, TX 75275-0175, USA  
81 School of Physics & Astronomy, University of Manchester, UK and Theoretical Physics Group,  
CERN, Geneva, Switzerland  
82 C.N. Yang Institute for Theoretical Physics, Stony Brook University, Stony Brook, NY 11794,  
USA  
83 Lancaster University, Lancaster, UK  
84 Johannes-Gutenberg-Universität Mainz, D-55099 Mainz, Germany  
85 H. Niewodniczański Institute of Nuclear Physics, PL 31-342 Kraków, Poland

- 86 II. Physikalisches Institut, Universität Giessen, Heinrich-Buff-Ring 16, D 35392 Giessen,  
Germany
- 87 Universiteit Antwerpen, Antwerpen, Belgium
- 88 University of Liverpool, UK
- 89 Lawrence Berkeley National Laboratory, Berkeley, CA, USA and Physics Department,  
University of California, Davis, CA, USA
- 90 Department of Physics, Baylor University, Waco, TX, USA
- 91 Institut für Experimentelle Kernphysik, Universität Karlsruhe, Karlsruhe, Germany