

LIST OF SELECTED PUBLICATIONS

of Dimitri T. BOURILKOV

1 Publications in Refereed Journals

1.1 Miscellanea

- [1] D.Bourilkov, S.Petrov and H.Vankov “Low-Energy Threshold Calculations of Extensive Air Showers with Primary Energy $10^{13} - 10^{15}$ eV”
Journal of Physics G, **17**(1991)1925.
- [2] D.Bourilkov, V.Brigljevic, F.Filthaut, R.Forty, F.Harris, R.Hawkings, G. von Holtey, E.Migliore, O.Scheider, E.Valazza, J.Wenninger “Beam Spot Position Measurement at the LEP Collider”
Nuclear Instruments and Methods A, **394**(1997)103. /Preprint CERN SL-96-74 (EA)/
- [3] D. Bourilkov “Analysis of Bhabha Scattering at LEP2 and Limits on Low Scale Gravity Models”
J. High Energy Phys. **08** (1999)006; hep-ph/9907380.
- [4] D. Bourilkov “Search for TeV Strings and New Phenomena in Bhabha Scattering at CERN LEP2”
Physical Review D. **62** (2000) 076005; hep-ph/0002172.
- [5] D. Bourilkov, “Hint for Axial-vector Contact Interactions in the Data on $e^+e^- \rightarrow e^+e^-(\gamma)$ at Centre-of-mass Energies 192–208 GeV”
Physical Review D. **64** (2001) 071701; hep-ph/0104165.
- [6] O. Adriani et al., “The L3+C Detector, a Unique Tool-set to Study Cosmic Rays”,
Nuclear Instruments and Methods A, **488**(2002)209.

1.2 With the BIS-2/EXCHARM Collaboration (as D.Burilkov)

- [1] A.Aleev et al. “Evidence for Charmed Baryons Λ_c^+ , Produced in the Neutron Beam of the Serpukhov Accelerator”
Yadernaya Fizika (Soviet Journal of Nuclear Physics), **35**(1982)1175.
- [2] A.Aleev et al. “Polarization of Λ^0 Produced by Neutrons with an Average Energy 40 GeV on Carbon Nuclei”
Yadernaya Fizika, **37**(1983)1479.
- [3] D.Burilkov et al. “Inclusive Production of Charmed Baryons Λ_c^+ in nCH-interactions near 55 GeV”
Bulgarian Journal of Physics, **10**(1983)49.
- [4] D.Burilkov et al. “Momentum Distributions of Λ_c^+ Produced in the Neutron Beam of the Serpukhov Accelerator”
Bulgarian Journal of Physics, **10**(1983)185.
- [5] A.Aleev et al. “The Λ_c^+ Production by 40-70 GeV Neutrons on Carbon”
Zeitschrift für Physik C, **23**(1984)333.
- [6] A.Aleev et al. “Hyperon Production in nC-interactions in a Neutron Beam with 40 GeV/c Momentum”
Yadernaya Fizika, **44**(1986)661.

1.3 With the L3 Collaboration

- [1] B.Adeva et al. “A Determination of the Properties of the Neutral Intermediate Vector Boson Z^0 ”
Physics Letters B, **231**(1989)509.
- [2] M.Acciarri et al. “Measurement of Cross Sections and Leptonic Forward-Backward Asymmetries at the Z Pole and Determination of Electroweak Parameters”
Zeitschrift für Physik C, **62**(1994)551.
- [3] M.Acciarri et al. “Measurement of Hadron and Lepton-Pair Production at $130 \text{ GeV} < \sqrt{s} < 140 \text{ GeV}$ at LEP”
Physics Letters B, **370**(1996)195.
- [4] M.Acciarri et al. “Measurement of Hadron and Lepton-Pair Production at $161 \text{ GeV} < \sqrt{s} < 172 \text{ GeV}$ at LEP”
Physics Letters B, **407**(1997)361.
- [5] M.Acciarri et al. “Search for R-Parity Breaking Sneutrino Exchange at LEP”
Physics Letters B, **414**(1997)373.

- [6] M.Acciarri et al. “Search for New Physics Phenomena in Fermion-Pair Production at LEP”
Physics Letters B, **433**(1998)163.
- [7] M.Acciarri et al. “Search for Low Scale Gravity Effects in e^+e^- Collisions at LEP”
Physics Letters B, **464**(1999)135.
- [8] M.Acciarri et al. “Search for Extra Dimensions in Boson and Fermion Pair Production in e^+e^- Interactions at LEP”
Physics Letters B, **470**(1999)281.
- [9] M.Acciarri et al. “Measurement of Hadron and Lepton-Pair Production at $130 \text{ GeV} < \sqrt{s} < 189 \text{ GeV}$ at LEP”
Physics Letters B, **479**(2000)101.
- [10] M.Acciarri et al. “Measurement of the Running of the Fine-Structure Constant”
Physics Letters B, **476**(2000)40.
- [11] M.Acciarri et al. “Search for Manifestations of New Physics in Fermion-Pair Production at LEP”
Physics Letters B, **489**(2000)81.
- [12] P. Achard et al. “Search for Doubly-Charged Higgs Bosons at LEP”
Physics Letters B, **576**(2003)18.

1.4 L3 Detector

- [1] L3 TEC Collaboration, F.Beissel et al. “Construction and Performance of the L3 Central Tracking Detector”
Nuclear Instruments and Methods A, **332**(1993)33.

2 Publications in Books

- [1] D.Bourilkov, P.Markov, M.Likhachev “Inclusive Spectrum of Charmed Baryons Λ_c^+ Produced at Serpukhov Energies”
University Annual Techn. Phys., Sofia, Tome 22, Book 2(1985)57.
- [2] D.Bourilkov, I.Yovchev, M.Likhachev, P.Markov “Extraction of Momentum Distributions from Contaminated Samples”
“Theoretical and High Energy Physics”, Bulgarian Academy of Sciences, Sofia, 1988, p.231. [In Bulgarian]
- [3] A.Ball et al. “Interaction Regions”
“Physics at LEP2”, Yellow book CERN 96-01, 1996, Vol.1, p.45.
- [4] G.Azuolos, U.Baur, J. van der Bij, D.Bourilkov et al. “Electroweak Physics”
“Standard Model Physics (and more) at the LHC”, CERN-YR-2000-004; hep-ph/0003275.
- [5] M.Kobel et al. (LEP2 Two-fermion Working Group), “Two-fermion Production in Electron-positron Collisions”
“Reports of the Working Groups on Precision Calculations for LEP2 Physics”, CERN-YR-2000-009; hep-ph/0007180.

3 Conference Proceedings

- [1] D.Bourilkov “Measurement of the Tau Lepton Lifetime with the L3 Detector”, Invited talk presented at the Meeting of the Division of Particles and Fields of the APS, Minneapolis, USA, 1996; published in the proceedings edited by K.Heller, J.K.Nelson and D.Reeder, World Scientific, Singapore, 1998, volume II, page 1264.
- [2] D.Bourilkov “Fermion-pair Production above the Z and Search for New Phenomena”, Invited LEP review talk, XXXIII Rencontres de Moriond, Les Arcs, France, 1998; published in the proceedings ed. by J. Trân Thanh Vân, Edition Frontiers, Paris, 1999, page 139; hep-ex/9806027.
- [3] D.Bourilkov, “Simulation of Multi-muon Events from EAS at Shallow Depths Underground”, Talk presented at the First Arctic Workshop on Cosmic Ray Muons, Sodankylä, Finland, April 24-29, 1999; Preprint ETHZ-IPP PR-99-04, Zurich, 1999; astro-ph/9907078.
- [4] D.Bourilkov, “Study of Multi-muon Events from EAS with the L3 Detector at Shallow Depth Underground”, Presented at the TAUP99 Workshop, Paris, 1999; Nuclear Physics B (Proc. Suppl.) 87(2000)521; astro-ph/0002326.
- [5] D.Bourilkov “Two-fermion and Two-photon Final States at LEP2 and Search for Extra Dimensions”, Invited LEP review talk, Les Rencontres de Physique de la Vallée d’Aoste, La Thuile, Aosta Valley, Italy,

2001; published in the proceedings ed. by M. Greco, Frascati Physics Series, Volume XXII, INFN, 2001, page 455; hep-ex/0103039.

[6] D.Bourilkov “Virtual Data in CMS Analysis” Talk presented at Computing in High Energy and Nuclear Physics, CHEP03, La Jolla, USA, March 2003; Published in eConf C0303241:TUAT010,2003; e-Print Archive: physics/0306008.

4 With the CMS Collaboration

[1] CMS Collaboration, G.Bayatian et al., “The Compact Muon Solenoid - Technical Proposal”
CERN/LHCC 94-38, LHCC/P1, CERN, 1994.

[2] CMS Collaboration, “The Trigger and Data Acquisition Project, Volume II. Data Acquisition & High-Level Trigger”,
CERN/LHCC 2002-26, CMS TDR 6.2, CERN, 15 December 2002.

5 Grid Related Publications

[1] D.Bourilkov “The CAVES Project: Exploring Virtual Data Concepts for Data Analysis”
e-Print Archive: physics/0401007; White Paper for the project, 2004.

[2] A. Arbree, P. Avery, D. Bourilkov, R. Cavanaugh, J. Rodriguez, G. Graham, M. Wilde Y. Zhao, “Virtual Data in CMS Analysis”
FERMILAB-CONF-03-275, GRIPHYN-REPORT-2003-16, CMS-CR-2003-015; Published in eConf C0303241:TUAT010,2003; e-Print Archive: physics/0306008.

[3] A. Arbree, P. Avery, D. Bourilkov, R. Cavanaugh, G. Graham, S. Katageri, J. Rodriguez, J. Voeckler, M. Wilde, “Virtual Data in CMS Production”
Published in eConf C0303241:TUAT011,2003; e-Print Archive: cs.dc/0306009.

[4] G. Graham et al., “The CMS Integration Grid Testbed”
Published in ECONF C0303241:MOCT010B,2003; e-Print Archive: cs.dc/0305066.

6 e-Print Archives (not mentioned elsewhere)

[1] D.Bourilkov “Study of Parton Density Function Uncertainties with LHAPDF and PYTHIA at LHC”
Contribution to LHC / LC Study Group Working Document. Prepared for LHC / LC Study Group Meeting, Geneva, Switzerland, 9 May 2003. e-Print Archive: hep-ph/0305126.

[2] D.Bourilkov “Sensitivity to Contact Interactions and Extra Dimensions in Dilepton and Diphoton Channels at Future Colliders”
Contribution to LHC / LC Study Group Working Document. Prepared for LHC / LC Study Group Meeting, Geneva, Switzerland, 5 Jul 2002. e-Print Archive: hep-ph/0305125

[3] The LEP Collaborations, ALEPH, DELPHI, L3, OPAL, the LEP Electroweak Working Group and the SLD Heavy Flavour and Electroweak Groups, “A Combination of Preliminary Electroweak Measurements and Constraints on the Standard Model”
preprint CERN-EP/2003-091, 4 December 2003; e-Print Archive: hep-ex/0312023.

7 Communications and Proposals at Major International Laboratories

[1] A.Aleev et al. (BIS-2 Collaboration) “Search for Narrow Baryon Resonances, Produced by High Energy Neutrons in Diffractive Processes”, Experimental Proposal CMI-2813, JINR, Dubna, 1980. [In Russian]

[2] D.Bourilkov, M.Likhachev, P.Markov, P.Todorov, R.Trayanov “Program PERUN for Geometrical Reconstruction of Events in Experiments Searching for New Particles on BIS-2 Set-up”,
Communication JINR, 10-80-656, Dubna, 1980. [In Russian]

[3] B.Betev, D.Bourilkov, St.Mavrodiev “Structure Functions of Pion and Nucleon Determined from High Mass Muon Pair Production”, Communication JINR, E2-85-312, Dubna, 1985.

[4] A.Aleev et al. (BIS-2 Collaboration) “Polarization of Ξ^- Produced Inclusively by Neutrons”,
JINR Rapid Communications N19-86, p.6, Dubna, 1986.

[5] N.Bogdanova, D.Bourilkov “Robust Estimation of Track Parameters in Wire Chambers”,
Communication JINR, E10-88-277, Dubna, 1988.