

CONTENTS

Preface	v
Contents	vii
I. New Physics in B and K Decays <i>R. Fleischer</i>	1
II. Physics at the Large Hadron Collider <i>M. Lefebvre</i>	44
III. Applications of Trapped Atoms for Fundamental Symmetry Studies <i>G. Sprouse</i>	69
Exclusive D Semileptonic Decays at CLEO-c <i>N. E. Adam</i>	88
Direct CP Violation Results from $BABAR$ <i>T. Allmendinger</i>	93
Cosmic Ray Velocity and Electric Charge Measurements in the AMS Experiment <i>L. Arruda</i>	98
Electroweak Physics at LEP 2 <i>P. Azzurri</i>	104
What Can We Learn about Neutrinos at SNOLAB? <i>A. Bellerive</i>	109
Flavor and Chiral Oscillations with Dirac Spinors <i>A. E. Bernardini</i>	114
Detection and Measurement of Gamma Rays in the AMS-02 Detector <i>J. Bolmont</i>	119
Higgs Boson Discovery Potential at CMS <i>J. Brooke</i>	124
AMS Transition Radiation Detector and the Search for Dark Matter <i>G. Carosi</i>	129

High Sensitivity B-Physics Measurements with the ATLAS Detector <i>J. R. Catmore</i>	134
Measurements of the CKM Angle α from <i>BABAR</i> <i>C. A. Chavez</i>	139
Systematics of Identified Hadron Spectra at PHENIX <i>M. Csanád</i>	144
Deep, Dark & Directional: The DRIFT Dark Matter Experiment at Boulby Mine <i>J. C. Davies</i>	149
Electroweak and QCD Results from DØ <i>M. Eads</i>	154
Time Dependent CP Violation in $B^0 \rightarrow \pi^+ \pi^-$ Decays <i>K. Hara</i>	159
Modification of the Casimir Effect Due to a Minimal Length Scale <i>U. Harbach</i>	164
Exploring the Neutrino Universe with AMANDA and IceCube <i>D. Hardtke</i>	169
Jet Production at HERA and Measurements of the Strong Coupling Constant α_s <i>D. Kcira</i>	174
Parton Energy Loss, Saturation, and Recombination at BRAHMS <i>E.-J. Kim</i>	179
Hadron Production and Radial Flow in Au+Au Collisions at RHIC-PHENIX <i>A. Kiyomichi</i>	184
SUSY Searches at LEP <i>A. C. Kraan</i>	189
Search for New Physics at CDF II <i>A. Lath</i>	194

Search for Fermiophobic Higgs at LEP <i>V. Lemaître</i>	199
Measurements of Proton Structure at HERA <i>V. Lendermann</i>	204
Top Physics at the LHC <i>S. Lowette</i>	209
Spatial Confinement and Thermal Deconfinement in the Compactified Gross-Neveu Model <i>J. M. C. Malbouisson</i>	214
Measurements of γ in <i>BABAR</i> <i>G. Marchiori</i>	219
Leptogenesis from Parametric Resonance <i>D. W. Maybury</i>	224
Currents on Superconducting Strings in an unusual Environment <i>M. A. Metlitski</i>	229
Search for Technicolor at LEP <i>N. Meyer</i>	234
Semileptonic Decays from <i>BABAR</i> <i>A. K. Mohapatra</i>	239
QCD Results at CDF <i>O. Norriella</i>	244
Hadron Spectroscopy in Electrons-Protons Collisions at HERA <i>B. Olivier</i>	249
Coulomb Corrections to R-Correlation in the Polarized Neutron Decay <i>A. Pak</i>	254
Simulating the Sensitivity of km^3 Hydrophone Arrays to Fluxes of Ultra High Energy Neutrinos <i>J. Perkin</i>	259
DØ Top Physics <i>M.-A. Pleier</i>	264

DØ Higgs Physics Results <i>K. J. Rani</i>	269
Measurements of R_b at LEP II Energies <i>Y. Rozen</i>	274
Quantization of Galilean Covariant Fields <i>E. S. Santos</i>	280
Electroweak Measurements at CDF <i>A. Sidoti</i>	285
Rare and Radiative B Meson Decays from the $BABAR$ Experiment <i>J. Stelzer</i>	290
The LHCb Ring-Imaging Cherenkov Detectors <i>J. W. Storey</i>	295
Physics of Heavy Flavour at CDF <i>S. Torre</i>	300
Time-Dependent CP -Violating Asymmetries in $b \rightarrow s\bar{q}q$ and $b \rightarrow s\gamma$ Transitions <i>Y. Ushiroda</i>	305
Top Physics Results at CDF <i>T. Vickey</i>	310
Inclusive Branching Fraction of $D \rightarrow vX$ <i>M. Weinberger</i>	315
Integral Fluxes, Day-Night, and Spectrum Results from SNO's 391-Day Salt Phase <i>J. Wendland</i>	320
Jets and High p_T (Di-Hadron) Correlations in PHENIX <i>D. L. Winter</i>	325
Resonance Production at STAR <i>H. Zhang</i>	330
List of Participants	335