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Nota di contenuto	I. New physics and the LHC / G. Altarelli -- II. Very high energy cosmic rays : results from the Pierre Auger Observatory / C. E. Covault -- III. Neutrinos at Lake Louise / S. Davidson -- IV. Physics impact of the tevatron / D. C. O'Neil -- V. Cosmology and the LHC / V. Rubakov -- CMK angle measurements from BABAR / J. M. Anderson -- An overview of top quark analyses from the CMS collaboration / J. Andrea -- Heavy quark production at HERA and heavy quark contributions to the proton structure function / D. Bartsch -- Measurement of the open charm cross-section in 200 GeV heavy-ion collisions at STAR / S. L. Baumgart -- ATLAS commissioning and physics with early data / P. J. Bell -- The OPERA long baseline neutrino experiment : status and first results / M. Besnier -- High Higgs [symbol] $\gamma\gamma$ in association with Z/W bosons / B. Brelier -- Tau decays at BABAR / A. Cervelli -- Search for heavy stable charged particles at CMS / J. Chen -- Higgs boson searches at CDF / C. Cuenca Almenar -- Searches for physics beyond the standard model at

CDF / G. De Lorenzo -- Higgs in ATLAS / A. Di Simone -- A high-sensitivity search for charged Lepton flavor violation at fermilab / E. C. Dukes -- Study of  $[symbol]$  decays at Belle / D. A. Epifanov -- Exclusive diffractive final state in electron-proton collisions / S. Fazio -- Lepton Universality test and the  $K^+$   $[symbol]$   $n+\nu\nu$  experiment at the CERN SPS / M. Fiorini -- Charmonium spectroscopy and decay at BABAR / B. G. Fulsom -- Prospects for CP violation studies at LHCb / V. V. Gligorov -- Neutral and charged current cross sections and extraction of structure functions and parton distributions / S. Habib -- Prospects of heavy flavor physics at ALICE using the electromagnetic calorimeter / J. Hamblen -- Prospects for rare and very rare B decays at LHCb / J. A. Hernando -- Exclusive  $\gamma\gamma[symbol]$  and  $\gamma p[symbol]Yp[symbol]p$  production at CMS / J. Hollar -- Measurements of  $[symbol](\gamma)$  at Belle / Y. Horii -- High  $P[symbol]$  jets and photons at D / Z. Hubacek -- Searches for new physics in EP collisions / M. E. Janssen -- The DEAP-CLEAN 3600 KG liquid-argon detector / C. J. Jillings -- GPD studies at HERMES / R. Kaiser -- SUSY search at ATLAS / Y. Kataoka -- Results from  $Y(5S)$  at Belle : strange beauty and other beasts / K. Kinoshita -- Neutrino physics with the icecube detector / J. Kirkyluk -- The PICASSO dark matter search experiment / C. B. Krauss -- A dark matter model based on colour superconductivity / K. Lawson -- Determination of the strong phase in  $D[symbol][symbol]K[symbol]$  using quantum-correlated measurements / A. Lincoln --  $B[symbol]$  physics at CDF / C. Liu -- Higgs searches at D / M. Owen -- B-quark semi-Leptonic decays : does the C-quark mass matter? / A. Pak -- Results on top quark physics at D / Y. Peters -- Diboson physics at CDF / T. J. Phillips -- Galilean Podolsky electrodynamics / P. J. Pompeia -- Towards precision measurements of  $\gamma$  : CLEO-c's pivotal role / A. S. Powell -- Quarkonium production and polarisation with early data at ATLAS / D. D. Price -- Recent B physics results at D / A. Rakitin -- Top physics at CDF / T. A. Schwarz -- Inclusive jet ALL measurements at STAR / D. Staszak -- Electroweak measurements from D / M. A. Strang -- D results on new phenomena searches / F. Tissandier -- Search of the Higgs boson in the  $WW^{(*)}$  decay channel with the CMS experiment / E. Torrasa -- Testing the standard model with radiative penguin decays at BABAR / J. M. Tuggle -- Status of the LHCb detector / P. Vazquez -- New resonances from B decay at Belle / C. C. Wang -- A light injection calibration system for the T2K ND280 ECal units / G. P. Ward -- Novel photo-sensors for the T2K experiment / M. A. Ward -- Status of the EXO experiment / U. Wichoski -- Recent jet results and precision  $[symbol]$  measurements from HERA / H. Wolfe -- Study of  $D[symbol]$  and measurement of  $[symbol]$  and  $[symbol]$  at CLEO-c / B. Xin.

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## Sommario/riassunto

This book contains pedagogical lectures on both theoretical and experimental particle physics, cosmology, and atomic trap physics. Numerous additional contributions provide up-to-date information on new experimental results from accelerators, underground laboratories, and nuclear astrophysics. This combination of pedagogical talks and topical short discussions presents a comprehensive amount of information and latest developments to researchers.

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