

# TABLE OF CONTENTS

Preface	xi
‘Overview’ on Elastic Scattering and Total Cross-Sections <i>A. Martin</i>	1
A Precise Measurement of the Real Part of the Elastic Scattering Amplitude at the S $\bar{p}p$ S <i>M. Bozzo</i>	7
Luminosity Dependent Measurement of the $p\bar{p}$ Total Cross Section at $\sqrt{s} = 541$ GeV <i>A. Bueno</i>	18
Status of Fermilab E-710 <i>R. Rubinstein</i>	23
Luminosity-Independent Measurement of $\bar{p}p$ Elastic Scattering, Single Diffraction, Dissociation and Total Cross Section at $\sqrt{s} = 546$ and 1800 GeV <i>P. Giromini</i>	30
Phase Relations Revisited: A Challenge for SSC and LHC <i>N. N. Khuri</i>	42
Status of Near-Forward Elastic Scattering <i>K. Kang, P. Valin and A. R. White</i>	50
$\bar{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV: $p, \sigma_t$ and $B$ <i>S. Sadr</i>	59
$p\bar{p}$ Forward Scattering Parameters Results from Fermilab E760 <i>S. Trokenheim</i>	64
Photoproduction Results from H1 at HERA <i>N. Magnussen</i>	68
Total and Jet Photoproduction Cross Sections at Hera and Fermilab <i>I. Sarcevic</i>	77

Minijet Model for High Energy $\gamma p$ Cross Sections <b>L. Durand</b>	82
The Pomeron as Massive Gluons <b>M. B. G. Ducati</b>	87
Large $N$ Theories with Glueball-like Spectra <b>I. R. Klebanov and K. Demeterfi</b>	92
Unitarity Relations for Gluonic Pomeron <b>T. Kanki</b>	100
The Donnachie-Landshoff Pomeron vs. QCD <b>J. R. Cudell</b>	105
The Odderon Intercept in Perturbative QCD <b>P. Gauron</b>	112
Theoretical and Phenomenol. Aspects of the Odderon <b>A. P. Contogouris</b>	117
First Theorist's Gaze at HERA Data at Low $x_B$ <b>E. M. Levin</b>	122
H1 Results for Structure Functions at Small $x$ <b>M. Besançon</b>	132
Partial Photoproduction Cross Sections at $\sqrt{s} \approx 180$ GeV and First Results on $F_2$ of the Proton from the ZEUS Experiment <b>M. Krzyranowski</b>	139
Observation of a New Class of Events in Deep Inelastic Scattering <b>K. M. Furutani</b>	149
Jet Production in Muon-Proton and Muon-Nuclei Scattering at Fermilab-E665 <b>C. W. Salgado</b>	153
DO Studies of Perturbative QCD <b>M. R. Fortner</b>	158
Large Rapidity Gaps and Single Diffraction Dissociation in High Energy $pp$ and $\bar{p}p$ Collisions <b>U. Maor</b>	165

Hadron and Reggeon Structure in High Energy Collisions <i>V. A. Petrov</i>	176
Monte Carlo Studies of Diffractive Processes in Deep Inelastic Scattering <i>M. G. Ryskin, S. Yu. Sivo<span style="font-weight: bold;">k</span>lov and A. Solano</i>	181
Elastic Parton-Parton Amplitudes in Geometrical Models <i>M. J. Menon</i>	188
Non-Perturbative QCD Calculations of High-Energy Observables <i>H. G. Dosch and E. Ferreira</i>	195
Effective Field Theory for Diffractive QCD Processes <i>S.-J. Rey</i>	<b>200</b>
High Energy Behavior of $\sigma_{\text{tot}}$ , $\rho_1$ and B — Asymptotic Amplitude Analysis and a QCD-Inspired Analysis <i>M. M. Block, F. Halzen, B. Margolis and A. R. White</i>	<b>205</b>
Rapidity Gaps and Multiplicity Fluctuations <i>K. Goulianos and S. Moul<span style="font-weight: bold;">d</span>ing</i>	219
Branching Processes and Multi-Particle Production <i>S. G. Matinyan and E. B. Prokhorenko</i>	<b>225</b>
High Energy Elastic Scattering and Nucleon as a Topological Soliton <i>M. M. Islam</i>	<b>230</b>
The Behavior of Cross Section at Very High Energies <i>H. Cheng</i>	<b>236</b>
The Pomeron and QCD with many Light Quarks <i>A. R. White</i>	<b>243</b>
Heterotic Pomeron: High Energy Hadronic Collisions in QCD <i>C.-I. Tan</i>	<b>250</b>
CDF Results on Electroweak Physics <i>H. J. Frisch</i>	<b>257</b>
DO Results on Electroweak Physics <i>S. Rajagopalan</i>	<b>278</b>

Search for the Top Quark and Other New Particles at DO <b>P. C. Bhat</b>	284
Rapidity Gaps and Forward Physics at DO <b>P. A. Draper</b>	291
High Energy Asymptotics of Perturbative Multi-color QCD <b>L. N. Lipatov</b>	297
Rapidity Gaps in $e^+e^-$ Collisions <b>H.-J. Lu</b>	302
Large Rapidity Gap, Jet Events at HERA: a PQCD Approach <b>J. Milana</b>	307
High Energy Parton-Parton Elastic Scattering in QCD <b>W.-K. Tang</b>	312
Parton-Parton Elastic Scattering and Rapidity Gaps at Tevatron Energies <b>V. Del Duca and W.-K. Tang</b>	317
Hard Elastic Scattering <b>M. G. Sotiropoulos and G. Sterman</b>	322
Hard Diffractive Processes <b>L. Frankfurt and M. Strikman</b>	329
Three Successful Tests of Color Transparency and Nuclear Filtering <b>P. Jain and J. P. Ralston</b>	339
New KNO in QCD <b>I. M. Dremin</b>	344
A Chiral Condensate Search at the Tevatron <b>C. C. Taylor</b>	348
Cosmic Ray Evidences for Aligned High Energy Jets at Supertevatron Energy and Hard DDD <b>E. L. Feinberg</b>	354
“New Hadronic State” Observed in Extremely High Energy Cosmic-Ray Interactions <b>S. Hasegawa</b>	361

Meson and Nucleon Form Factors in PQCD <i>C.-R. Ji</i>	366
Elastic Charge Form Factors for Pseudoscalar Mesons <i>W. W. Buck and H. Ito</i>	371
The Ultimate Experiment <i>J. Orear</i>	376
Search for Coherent Charm Production in 800 GeV/c Proton-Silicon Interactions <i>C. Zhang</i>	382
Chiral Quark Model and Hadron Scattering <i>S. M. Troshin and N. E. Tyurin</i>	387
Elastic Spin Experiments at UNK, Fermilab and SSC <i>A. D. Krisch</i>	392
Spin-Flip in Elastic and Diffractive Scattering <i>N. Akchurin, N. Buttimore and A. Penzo</i>	398
FNAL Polarized Beams and Spin Dependence at RHIC <i>A. Yokosawa</i>	404
Particle Tracking in the Close-to-Forward Region $\eta > 5.5$ <i>J. Iwai</i>	409
Blois V: Experimental Summary <i>M. G. Albrow</i>	414
Blois V: Summary Talk <i>F. Halzen</i>	433
List of Participants	455