

CONTENTS

	Foreword	xi
Chapter 1.	Foundations of the constituent quark model D. DIAKONOV	1
Chapter 2.	Structure of the constituent quark H. J. PIRNER	19
Chapter 3.	The spin of the nucleon — results from SMC U. LANDGRAF	29
Chapter 4.	Accessing the gluon polarisation in deep inelastic muon scattering G. K. MALLOT	39
Chapter 5.	Higher-twist corrections to Bjorken and Ellis–Jaffe sum rules E. STEIN	49
Chapter 6.	Recent results from the SLAC E143 Collaboration A. FELTHAM	51
Chapter 7.	Electromagnetic form factors of the nucleon F. KLEIN, H. G. ANDRESEN, J. R. M. ANNAND, K. AULENBACHER, J. BECKER, J. BLUME-WERRY, Th. DOMBO, P. DRESCHER, M. EBERT, D. EYL, H. FISCHER, A. FREY, P. GRABMAYR, T. GROSSMANN, S. J. HALL, P. HARTMANN, T. HEHL, W. HEIL, J. HOFFMANN, D. IRELAND, J. D. KELLIE, F. KLEIN, M. LEDUC, K. LIVINGSTON, M. MEYERHOFF, Ch. NACHTIGALL, A. NATTER, M. OSTRICK, E. W. OTTEN, R. O. OWENS, S. PLÜTZER, E. REICHERT, R. RIEGER, D. ROHE, M. SCHÄFER, H. SCHMIEDEN, R. SPRENGARD, K.-H. STEFFENS, R. SURKAU, Th. WALCHER, R. WATSON and E. WILMS	53
Chapter 8.	Exchange current contributions to the octet baryon magnetic moments G. WAGNER, A. J. BUCHMANN and A. FAESSLER	69
Chapter 9.	Low-energy QCD G. ECKER	71

Chapter 10.	QCD in the axial gauge M. THIES	85
Chapter 11.	Meson transition form factors from a QCD model field theory P. C. TANDY	97
Chapter 12.	Pion and rho meson masses from quark and gluon condensates J. M. NAMYSŁOWSKI	107
Chapter 13.	Neutral pion photoproduction off protons close to threshold in chiral perturbation theory N. KAISER	119
Chapter 14.	Threshold π^0 electroproduction at the Mainz 3-spectrometer facility M. O. DISTLER	129
Chapter 15.	Isospin splitting of transition amplitudes from photoproduction of eta mesons on deuterium P. HOFFMANN-ROTHER, E. HOURANY, M. BREUER, J.-P. DIDELEZ, M. RIGNEY, J. AJAKA, G. ANTON, J. ARENDS, G. BERRIER-RONSIN, W. BEULERTZ, G. BLANPIED, A. BOCK, G. v. EDEL, R. FRASCARIA, K. HELBING, J. HEY, M. KREBECK, R. MAASS, G. NÖLDEKE, B. PREEDOM, B. RITCHIE, L. ROSIER, B. SAGHAI, M. SCHUMACHER, F. SMEND, S. WHISNANT and B. ZUCHT	131
Chapter 16.	The anomalous decay $\eta \rightarrow \pi\pi\gamma\gamma$ G. KNÖCHLEIN, S. SCHERER and D. DRECHSEL	137
Chapter 17.	New aspects of the mesonic cloud in the nucleon A. SZCZUREK and H. HOLTSMANN	141
Chapter 18.	Counting pions in the nucleon M. FIOLEHAIS, B. GOLLI, M. ROSINA and S. ŠIRCA	151
Chapter 19.	Baryons as solitons in effective chiral field theories G. HOLZWARTH	161
Chapter 20.	Dynamical interplay of quarks and solitonic meson clouds in baryons U. ZÜCKERT	177
Chapter 21.	Relativistic Faddeev approach to baryons in the Nambu–Jona–Lasinio (NJL) model W. BENTZ	179
Chapter 22.	Effective hadron theory H. REINHARDT	189

Chapter 23.	Baryons in the SU(2) and SU(3) NJL model: a review of results K. GOEKE	207
Chapter 24.	Strangeness in the nucleon M. ALBERG	217
Chapter 25.	Strangeness in the nucleon: the strange vector form factors H. FORKEL	229
Chapter 26.	Low energy ($T_\pi < 300$ MeV) pion nucleon interactions and the problem of the σ -term (strange content of the nucleon) W. KLUGE	239
Chapter 27.	Loop diagrams in cavity QCD and the properties of the nucleon R. D. VIOLLIER	251
Chapter 28.	Spectroscopy of baryons containing heavy quarks B. SILVESTRE-BRAC	263
Chapter 29.	Baryon spectrum and chiral dynamics L. Ya. GLOZMAN	275
Chapter 30.	The role of nucleon structure in nuclear physics A. W. THOMAS	289
Chapter 31.	Intermediate-energy hadronic physics with the AmPS-NIKHEF facility P. K. A. DE WITT HUBERTS	301
Chapter 32.	Meson–meson correlations in baryon–baryon and antibaryon–baryon interactions K. HOLINDE	311
Chapter 33.	The nucleon–nucleon force from skyrmions J. M. EISENBERG and G. KÄLBERMANN	321
Chapter 34.	πNN form factor determined from a microscopic model for πN scattering C. SCHÜTZ	335
Chapter 35.	Baryon–baryon interaction in a chiral quark model A. FAESSLER	337
Chapter 36.	Field-theoretical construction of the nucleon–nucleon potential with quark degrees of freedom A. I. MACHAVARIANI	349
Chapter 37.	Algebraic technique in the quark–cluster approach to NN interaction I. T. OBUKHOVSKY	359

Chapter 38.	Search for narrow NN-decoupled resonances in the π NN-system— an overview H. CLEMENT, R. BILGER, W. BRODOWSKI, H. CÁLEN, S. CARIUS, H. CLEMENT, A. DENIG, C. EKSTRÖM, K. FÖHL, K. FRANSSON, L. GUSTAFSSON, S. HÄGGSTRÖM, B. HÖISTAD, A. JOHANSSON, T. JOHANSSON, K. KILIAN, W. KLUGE, S. KULLANDER, G. KURZ, A. KUPŚĆ, B. MOROSOV, J. MÖHN, A. MÖRTSELL, W. OELERT, D. REISTAD, V. RENKEN, R. RUBER, D. SCHAPLER, M. SCHEPKIN, U. SCHUBERTH, B. SHWARTZ, U. SIODLACZEK, J. STEPANIAK, A. SUKHANOV, G. J. WAGNER, R. WIESER, J. ZABIEROWSKI, A. ZERNOV and J. ZLOMANCZUK	369
Chapter 39.	Search for a narrow π NN-resonance in $pp \rightarrow pp\pi^+\pi^-$ R. BILGER, W. BRODOWSKI, H. CÁLEN, H. CLEMENT, C. EKSTRÖM, K. FÖHL, K. FRANSSON, L. GUSTAFSSON, S. HÄGGSTRÖM, B. HÖISTAD, A. JOHANSSON, T. JOHANSSON, K. KILIAN, S. KULLANDER, G. KURZ, A. KUPŚĆ, B. MOROSOV, J. MÖHN, A. MÖRTSELL, W. OELERT, D. REISTAD, V. RENKEN, R. RUBER, M. SCHEPKIN, B. SHWARTZ, U. SIODLACZEK, J. STEPANIAK, A. SUKHANOV, G. J. WAGNER, J. ZABIEROWSKI, A. ZERNOV and J. ZLOMANCZUK	379
Chapter 40.	The d' -dibaryon in the nonrelativistic quark model A. J. BUCHMANN, G. WAGNER, K. TSUSHIMA, L. Ya. GLOZMAN and A. FAESSLER	383
Chapter 41.	Quark pair production in a rapid chiral phase transition C. GREINER	395
Chapter 42.	Imaging technique at Fermi scale P. FILIP	405
Chapter 43.	Neutron stars and massive quark matter A. DRAGO, M. HJORTH-JENSEN and U. TAMBINI	407
Chapter 44.	J/ψ and ψ' suppression in hadronic matter K. MARTINS	409
Chapter 45.	Hyperon production at LEAR and COSY W. EYRICH	411
Chapter 46.	Observation of nucleon resonances in antiproton annihilation in liquid deuterium with the Crystal Barrel detector U. THOMA	415
Chapter 47.	0^+ mesons D. V. BUGG	417

Chapter 48.	Exotic mesons in nucleon–antinucleon annihilation T. GUTSCHE	427
Chapter 49.	Search for exotic mesons in π^-p interactions at 18 GeV/c J. M. LOSECCO, T. ADAMS, J. M. BISHOP, N. M. CASON, J. J. MANAK, A. H. SANJARI, W. D. SHEPHARD, D. L. STIENIKE, S. A. TAEGAR, D. R. THOMPSON, S. U. CHUNG, R. W. HACKENBURG, C. OLCANSKI, D.P. WEYGAND, H. J. WILLUTZKI, S. DENISOV, A. DUSHKIN, V. KOCHETKOV, I. SHEIN, A. SOLDATOV, B. B. BRABSON, R. R. CRITTENDEN, A. R. DZIERBA, J. GUNTER, R. LINDENBUSCH, D. R. RUST, E. SCOTT, P. T. SMITH, T. SULANKE, S. TEIGE, Z. BAR-YAM, J. P. DOWD, P. EUGENIO, M. HAYEK, W. KERN, E. KING, V. A. BODYAGIN, A. M. GRIBUSHIN, O. L. KODOLOVA, M. A. KOSTIN, V. L. KOROTKIKH, A. I. OSTROVIDOV, A. S. PROSKURYAKOV, L. I. SARYCHEVA, N. B. SINEV, I. N. VARDANYAN, A. A. YERSHOV, D. S. BROWN, T. K. PEDLAR, K. K. SETH, J. WISE, D. ZHAO, G. S. ADAMS, J. NAPOLITANO, M. NOZAR, J. A. SMITH and M. WITKOWSKI	437
	Contents of Some Previous Volumes	447