

Contents

Opening

<i>B. Frois</i>	
Modern Trends in the Study of Few-Nucleon Systems	1

Part 1

Plenary Sessions

1. Few-Hadron Systems

<i>K. Holinde</i>	
Recent Developments in Meson-Exchange NN and $N\bar{N}$ Interactions	22
<i>M. R. Robilotta</i>	
On the Construction of Three-Nucleon Potentials	35
<i>J. L. Friar</i>	
Results of Recent Calculations Using Realistic Potentials	51
<i>Y. Akaishi</i>	
Microscopic Four-Body Calculations and Short-Range Correlation in Nuclei	64
<i>C. B. Dover</i>	
Few-Body Hypernuclear Systems: Weak Decays	77

2. Response of Few-Body Systems to Electromagnetic Probes

<i>J. Martino</i>	
Isoscalar and Isovector Electromagnetic Properties of Few-Nucleon Systems	90
<i>J.-F. Mathiot</i>	
Electromagnetic Interactions and Mesonic Degrees of Freedom in Nuclei	103
<i>P. K. A. De Witt Huberts</i>	
Proton Momentum Distribution in ^3He and ^4He Studied with the Quasifree ($e, e'p$) Reaction	116

<i>J. M. Laget</i>	
Correlations and Three-Body Effects in Photo- and Electronuclear Reactions	126
<i>C. Ciofi degli Atti</i>	
Nucleon Momentum Distributions and Spectral Functions in Few-Body Systems	140
<i>D. O. Riska</i>	
Nuclear Currents and Form Factors in the Skyrme Model	155

3. Response of Few-Body Systems to Hadronic Probes

<i>C. Kerboul</i>	
Few-Body Problems at Intermediate Energies	169
<i>W. Plessas, J. Haidenbauer</i>	
Properties of the Nucleon-Nucleon Interaction and Three-Nucleon Scattering	185
<i>A. S. Rinat</i>	
New Information on and Current Understanding of the Coupled $NN\pi$ System	202
<i>P. U. Sauer</i>	
Nucleon-Nucleon Interaction Above Pion Threshold	215

4. Short-Range Phenomena—Few-Quark Systems

<i>Yu. A. Simonov</i>	
Quarks in NN and Few-Body Systems	228
<i>L. A. Kondratyuk</i>	
Multiquark Exotics (Baryonium, Dibaryons, etc.)	242
<i>P. J. Mulders</i>	
Consequences of the Quark Structure of Hadrons in Nuclei	256
<i>J. M. Namysłowski</i>	
Linearly Confining Force from Quark and Gluon Condensates	271

5. Atomic and Molecular Physics

<i>J. C. Gay, D. Delande</i>	
Probing the Quantum Analog of Chaos with Atoms in External Fields	280
<i>C. J. Joachain</i>	
Theory of $(e, 2e)$ Reactions	294
<i>A. R. P. Rau</i>	
Hyperspherical Coordinates for Electron Correlations	309
<i>J. P. Malrieu, D. Maynau</i>	
On the Electronic and Geometrical Structures of Small Atomic Clusters	323

- A. C. Fonseca, M. T. Peña*
Faddeev-Born-Oppenheimer Equations for Molecular Three-
Body Systems: Application to H_2^+ 331
- J. Linderberg*
Atom-Diatom Scattering in Hyperspherical Coordinates 348

Part 2 Parallel Sessions

1. Response of Few-Body Systems to Electromagnetic Probes

- H. Hachemi, A. Amroun, S. Auffret, J. M. Cavedon, P. Dreux, J. Duclos, B. Frois, D. Goutte, J. Martino, V. Meot, X. H. Phan, S. Platchkov, I. Sick*
Precise Measurements of the Deuteron $A(q^2)$ Structure Function . . 358
- C. Marchand, M. Bernheim, P. C. Dunn, A. Gérard, J. M. Laget, A. Magnon, J. Morgenstern, J. Mougey, J. Picard, D. Reffay-Pikeroen, S. Turck-Chieze, P. Vernin, M. K. Brussel, G. P. Capitani, E. De Sanctis, S. Frullani, F. Garibaldi*
High Proton Momenta and Short-Range Nucleon-Nucleon Correlations in a ^3He ($e, e'p$) Experiment 365
- B. Desplanques*
Further MEC Contributions to the Charge Form Factor of the $3N$ System 370
- C. Ciofi degli Atti, E. Pace, G. Salmè*
 γ -Scaling and Nucleon Momentum Distribution in Few-Nucleon Systems 376
- S. A. Gurvitz, A. S. Rinat*
FSI in Inclusive Electron Scattering and γ -Scaling 383
- J.-L. Ballot, A. M. Eiró*
Trinucleon D -State Effects in p - d Radiative Capture Reaction . . . 389
- P. Levi Sandri, M. Anghinolfi, N. Bianchi, G. P. Capitani, P. Corvisiero, E. De Sanctis, C. Guaraldo, V. Lucherini, V. Muccifora, E. Polli, A. R. Reolon, G. Ricco, P. Rossi, M. Sanzone, M. Taiuti*
Forward and Backward Angles Deuteron Photodisintegration at Intermediate Energies 396
- G. Tamas*
Photo-Absorption Mechanism in ^3He Around the $\Delta(1232)$ Resonance 402

2. Response of Few-Body Systems to Hadronic Probes

- F. Balestra, Y. A. Batusov, G. Bendiscioli, S. Bossolasco, F. O. Breivik, S. A. Bunyatov, M. P. Bussa, L. Busso, I. V. Falomkin, L. Fava, L. Ferrero, C. Guaraldo, A. Haatuft, A. Halsteinslid, T. Jacobsen, E. Lodi Rizzini, A. Maggiora, K. Myklebost, F. Nichitiiu, J. M. Olsen,*

<i>D. Panzieri, G. Piragino, G. B. Pontecorvo, R. Rotondi, P. Salvini, M. G. Sapozhnikov, S. O. Sorensen, F. Tosello, V. I. Tretyak, A. Zenoni</i>	
Annihilation of Antiprotons at Rest in ^3He and ^4He	411
<i>O. Portilho, P. S. C. Alencar, S. A. Coon</i>	
Three-Body Hypernuclei and Hypernuclear Interactions	417
<i>R. Frascaria, R. Siebert, J. P. Didelez, G. Blanpied, M. Boivin, E. Bovet, J. P. Egger, J. Ernst, J. Y. Grossiord, T. Mayer-Kuckuk, Ch. F. Perdrisat, B. Freedom, T. Reposeur, B. Saghai, J. Yonnet, E. Warde</i>	
Search for Strange Sixquark States in $pp \rightarrow K^+ X$ Missing Mass Spectra	425
<i>B. M. K. Nefkens, I. Šlaus</i>	
Violation of Charge Symmetry	432
<i>G. S. Blanpied, J.-P. Didelez, T. Reposeur, R. Frascaria, R. Siebert, E. Warde, B. Saghai, B. M. Freedom, E. Bovet, J.-P. Egger, G. Battistoni, C. Bloise</i>	
Search for Narrow Dibaryon Resonances in the $pp\pi^0$ Channel . . .	435
<i>N. Willis, B. Tatischeff, M. P. Comets, Y. Le Bornec, B. Bonin, J. C. Lugol, B. Mayer, Y. Terrien, R. Beurtey, A. Boudard, J. M. Durand, P. Fassnacht, F. Hibou</i>	
Experimental Evidence of Narrow Non-Strange Dibaryons	443
<i>D. Drechsel, M. M. Giannini, L. Tiator</i>	
Baryon Properties with Three-Quark Forces	448
<i>C. Fayard, G.-H. Lamot, T. Mizutani, B. Saghai</i>	
$NN \rightarrow N\Delta$ Process in the πNN Theory	453
<i>H. Ullrich, G. Backenstoss, S. Cierjacks, M. Furic, A. Hoffart, M. Izycki, R. Powers, T. Petkovic, B. Rzehorz, P. Salvisberg, N. Simicevic, M. Steinacher, P. Weber, H. J. Weyer</i>	
Pion Absorption in ^3He and ^4He Nuclei	459
<i>H. Garcilazo, L. Mathelitsch</i>	
Three-Body Calculations of πN Scattering	464

3. Hyperspherical Formalism Applied to Few-Body Systems

<i>M. Fabre de la Ripelle</i>	
Historical Review and Modern Trends in Hyperspherical Formalism	469
<i>J. S. Levinger</i>	
On the Use of H. H. for Photoeffect	483
<i>M. Fabre de la Ripelle, H. Fiedeldey, S. A. Sofianos</i>	
An Integro-Differential Equation Approach to Few- and Many-Body Systems	488
<i>M. Fabre de la Ripelle, H. Fiedeldey, S. A. Sofianos</i>	
Hyperspherical Methods for Three-Quark Systems	493
<i>M. A. Abdel-Raouf</i>	
Are Particles and Antiparticles Able to Form (Quasi) Molecular Structures?	498

4. Hadron-Hadron Interactions and Hadron Few-Body Systems

<i>B. Vuaridel, W. Gruebler, V. König, P. A. Schmelzbach, M. Bittcher, K. Elsener, Ch. Forstner, M. Bruno, F. Cannata, M. D'Agostino, I. Borbély</i>	
Investigation of the Triton and ^3He Asymptotic Normalization Constant with the $^4\text{He}(d, ^3\text{He})^3\text{H}$ Reaction	504
<i>P. H. A. Timmers, R. G. E. Timmermans, T. A. Rijken, J. J. de Swart</i>	
Coupled Channels and P -Matrix Approach to Baryon-Antibaryon Interactions	509
<i>P. M. Maessen, T. A. Rijken, J. J. de Swart</i>	
Soft-Core Hyperon-Nucleon Potential Model	514
<i>M. J. Lavelle, E. Werner, St. Glazek</i>	
Nucleon Properties with Running Quark Masses	519
<i>E. A. Bartnik, H. Haberzettl, Th. Januschke, U. Kerwath, W. Sandhas</i>	
Neutron-Deuteron Scattering Calculations with Optimal Separable Two-Body Input	524
<i>J. Kamesberger, G. Eder, M. E. Faber, H. Leeb, H. Markum</i>	
Two-Body and Three-Body Forces in a Baryon Within Lattice QCD	529
<i>St. Kistryn, J. Lang, J. Liechti, H. Lüscher, Th. Maier, R. Müller, M. Simonius, J. Smyrski, F. Foroughi, W. Haeberli</i>	
A Precision Measurement of the Analyzing Power A_1 in the Elastic pp Scattering at 50.04 MeV	534
<i>R. Girard, H. Kroeger</i>	
Momentum Space Lattice Calculation of the Two-Body S -Matrix of the Massive Thirring Model	539
<i>E. O. Alt, H. Fiedeldey, S. A. Sofianos</i>	
Equivalent Local Potentials for Three-Body Scattering	544
<i>J.-L. Ballot, L. Lesniak</i>	
"Optimal" Approximation and the Realistic Nucleon-Nucleon Interactions	549
<i>H. Witala, W. Glöckle, T. Cornelius</i>	
Three-Nucleon Continuum Calculations with Realistic NN Potentials	555

Closing

<i>W. Sandhas</i>	
Conference Summary	560
List of Participants	572
Listed in Current Contents	