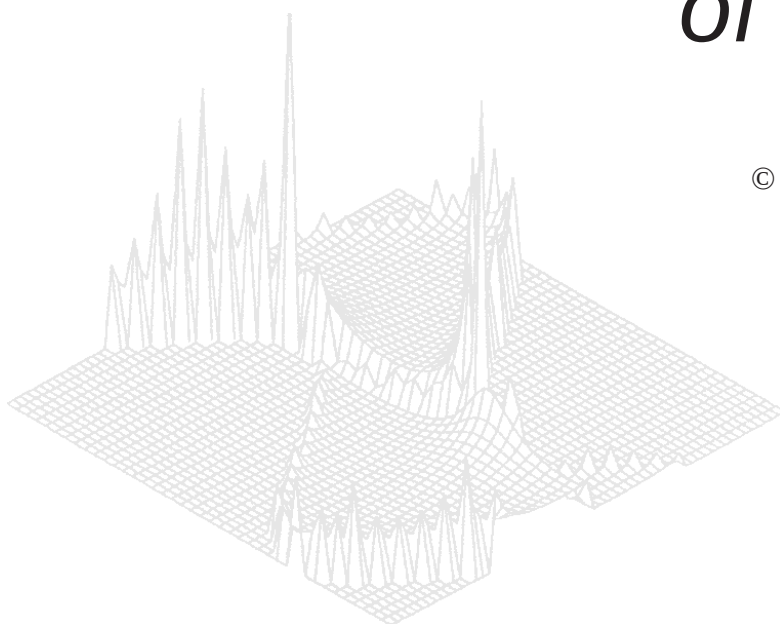

CSIRO PUBLISHING

Australian Journal of Physics

Volume 50, 1997
© CSIRO Australia 1997



A journal for the publication of
original research in all branches of physics

www.publish.csiro.au/journals/ajp

All enquiries and manuscripts should be directed to

Australian Journal of Physics

CSIRO PUBLISHING

PO Box 1139 (150 Oxford St)

Collingwood

Vic. 3066

Australia

Telephone: 61 3 9662 7626

Facsimile: 61 3 9662 7611

Email: peter.robertson@publish.csiro.au



Published by **CSIRO PUBLISHING**
for CSIRO Australia and
the Australian Academy of Science



Author Index to Volume 50

- Abdussattar and Vishwakarma, R. G.—
Some Robertson–Walker models with
variable G and Λ 893
- Akashi, H., Sakai, Y., and Tagashira, H.—
Modelling of a micro-streamer initiation
and development of ArF excimer laser
discharges 655
- Allison, I.—
Physical processes determining the
Antarctic sea ice environment 759
- Amos, K., Dortmans, P. J., and
Karataglidis, S.—
Signatures of medium effects on NN
interactions in proton scattering from
nuclei 245
- Argyris, J., and Ciubotariu, C.—
Massive gravitons in general relativity
879
- Asami, H.—
See Ishii, N. 123
- Beesham, A.—
See Singh, G. P. 903
- Bentz, W.—
See Ishii, N. 123
- Bergmann, K.—
See Fewell, M. P. 281
- Brown, A. S., Holt, S. A., Saville, P. M.,
and White, J. W. —
Neutron and X-ray reflectometry: Solid
multilayers and crumpling films 391
- Brunger, M. J.—
See Buckman, S. J. 483
Campbell, L. 525
- Buckman, S. J.—
Foreword to special issue on ‘Low Energy
Atomic, Molecular and Chemical
Physics’ 439
- Buckman, S. J., and Brunger, M. J.—
A critical comparison of electron
scattering cross sections measured by
single collision and swarm techniques
483
- Buntar, V., Sauerzopf, F. M., and Weber,
H. W.—
Solid state and magnetic properties of
pure, intercalated and superconducting
fullerenes 329
- Burden, C. J., Qian, L., Roberts, C. D.,
Tandy, P. C., and Thomson, M. J.—
Meson spectrum from the Bethe–Salpeter
equation 95
- Bzenic, S. A.—
See Petrovic, Z. Lj. 591
- Cadogan, J. M.—
Are there giant magnetic moments in
Fe-nitrides? 1093
Magnetism and superconductivity in
 $\text{RNi}_2\text{B}_2\text{C}$ compounds (R = Rare earth
and Y) 1103
- Cahill, R. T., and Gunner, S. M.—
Global colour model of QCD and its
relationship to the NJL model, chiral
perturbation theory and other models
103
- Campbell, L., Brunger, M. J., Teubner,
P. J. O., Mojarrabi, B., and
Cartwright, D. C.—
Deconvolution of overlapping features
in electron energy-loss spectra:
Determination of absolute differential
cross sections for electron-impact
excitation of electronic states of
molecules 525
- Carbotte, J. P.—
See Marsiglio, F. 975, 1009
- Carter, C. J.—
See Wang, J. B. 645
- Cartwright, D. C.—
See Campbell, L. 525
- Ciubotariu, C.—
See Argyris, J. 879
- Clay, R. W.—
See Smith, A. G. K. 827
- Close, J. D.—
See Stevenson, K. P. 683
- Corney, S.—
Control of chaos in the Rössler system
263
- Crompton, R. W.—
See Robertson, A. G. 441
- Derlet, P. M., Perlman, H. S., and Troup,
G. J.—
Stimulated vacuum pair production in a
focused laser field 803
- Dew-Hughes, D.—
Application of high temperature
superconductors in passive microwave
devices 363
- Dortmans, P. J.—
See Amos, K. 245
- Elford, M. T.—
See Robertson, A. G. 441
- England, J. P., and Skullerud, H. R.—
Boundary effects in the Townsend–Huxley
experiment 553
- Faessler, A.—
See Tsushima, K. 35

- Fewell, M. P.—
 See Haydon, S. C. 627
- Fewell, M. P., Shore, B. W., and Bergmann, K.—
 Coherent population transfer among three states: Full algebraic solutions and the relevance of non adiabatic processes to transfer by delayed pulses 281
- Fujii, H.—
 See Tatsumi, T. 23
- Fukutomi, M., Kumagai, S., and Maeda, H.—
 Fabrication of $\text{YBa}_2\text{Cu}_3\text{O}_y$ thin films on textured buffer layers grown by plasma beam assisted deposition 381
- Furst, J. E.—
 See Yu, D. H. 639
- Genz, H.—
 Two remarks concerning the signs of the light quark masses 913
- Ghosh, S. G.—
 See Singh, G. P. 903
- Govender, M.—
 See Maharaj, S. D. 959
- Greenwald, R. A.—
 Space weather, SuperDARN and the Tasmanian Tiger 773
- Guichon, P. A. M., Saito, K., and Thomas, A. W.—
 Quarks in finite nuclei 115
- Gunner, S. M.—
 See Cahill, R. T. 103
- Hamer, C. J.—
 Finite-size scaling and effective Lagrangian theory 1051
- Hatano, Y.—
 Electron attachment and recombination in dense molecular media 615
- Hatsuda, T.—
 Tensor charge of the nucleon on a lattice 205
- Haydon, S. C., and Fewell, M. P.—
 Diffusion of excited neutral particles: Basic studies and potential applications 627
- Hayes, P. A.—
 See Yu, D. H. 639
- Hicks, T. J.—
 Magnetism and neutron scattering 1119
 Neutron polarisation analysis, spin glasses and other systems 1127
- Holt, S. A.—
 See Brown, A. S. 391
- Hosaka, A., and Walet, N. R.—
 Algebraic method for large- N_c QCD 211
- Huang, S. W.—
 See Tsushima, K. 35
- Hugrass, W. N.—
 A new derivation for the radiation reaction force 815
- Ichie, H.—
 See Toki, H. 199
- Ishii, M.—
 Nonequilibrium process in the sigma model and chemical relaxation time in a homogeneous pionic gas 3
- Ishii, N., Asami, H., Bentz, W., and Yazaki, K.—
 Faddeev approach to the nucleon in the NJL model 123
- Iwama, T.—
 See Kohama, A. 131
- Iwamoto, N.—
 See Muto, T. 13
- Jones, N. R.—
 See Liu, D. 155
- Jovanovic, J. V.—
 See Petrovic, Z. Lj. 591
- Karataglidis, S.—
 See Amos, K. 245
- Kibble, T. W. B.—
 Phase transitions and topological defects in the early Universe 697
- Kohama, A., Iwama, T., and Yazaki, K.—
 Nuclear transparency in a relativistic quark model 131
- Kondo, Y., Morimatsu, O., and Nishino, Y.—
 Hadron-nucleon scattering lengths from QCD sum rules 221
- Kumagai, S.—
 See Fukutomi, M. 381
- Kumano, S.—
 Shadowing aspects of nuclear parton distributions 45
- Kusaka, K., Piller, G., Thomas, A. W., and Williams, A. G.—
 Structure functions of the nucleon in a covariant scalar spectator model 139
- Kusaka, K., Simpson, K. M., and Williams, A. G.—
 Solving the Bethe-Salpeter equation in Minkowski space: Scalar theories and beyond 147
- Lewandowski, J. L. V.—
 Local stability analysis of three-dimensional magnetically confined plasmas 921

- Ling, M. F.—
Ab initio theory of magnetic correlations
in itinerant magnets 1083
- Liu, D., and Jones, N. R.—
Quark triangle diagrams and radiative
meson decays 155
- Lowke, J. J., and Quartel, J. C.—
Use of transport coefficients to calculate
properties of electrode sheaths of
electric arcs 539
- McEachran, R. P., and Stauffer, A. D.—
Relativistic effects in low-energy
electron-argon scattering 511
- Maeda, H.—
See Fukutomi, M. 381
- Maharaj, S. D., and Govender, M.—
Behaviour of the Kramer radiating star
959
- Marsiglio, F., and Carbotte, J. P.—
Aspects of optical properties in
conventional oxide superconductors
975
- Quasiparticle lifetimes and the
conductivity scattering rate 1011
- Maruyama, T.—
See Tatsumi, T. 23
- Matsuki, T., and Morii, T.—
Spectroscopy of heavy mesons expanded
in $1/m_Q$ 163
- Miyamura, O.—
See Suganuma, H. 233
- Mojarrabi, B.—
See Campbell, L. 525
- Mondal, K. K.—
See Paul, S. N. 319
- Morii, T.—
See Matsuki, T. 163
- Morimatsu, O.—
See Kondo, Y. 221
- Morita, H., and Suzuki, T.—
Nuclear correlation effects in the deep
inelastic structure function of ^4He 53
- Morrison, M. A.—
See Robertson, A. G. 441
- Muino, P. L.—
See Stevenson, K. P. 683
- Muto, T., Tatsumi, T., and Iwamoto, N.—
Nonequilibrium processes in kaon
condensation 13
- Nejoh, Y. N.—
Effects of positron density and
temperature on large amplitude
ion-acoustic waves in an
electron-positron-ion plasma 309
- Nemoto, Y.—
See Takizawa, M. 187
- Nesbet, R. K.—
Quantitative theory and accurate
experiments: low-energy electron
scattering by He and H_2 as case
studies 473
- Nishino, Y.—
See Kondo, Y. 221
- O'Connell, H. B.—
Recent developments in rho-omega
mixing 255
- Oka, M.—
See Takizawa, M. 187
- Paul, S. N., Mondal, K. K., and
Roychowdhury, A.—
Effect of negative ions on the instability
of ion-acoustic waves in a relativistic
plasma 319
- Perlman, H. S.—
See Derlet, P. M. 803
- Petrovic, Z. Lj., Jovanovic, J. V.,
Raspopovic, Z. M., Bzenic, S. A., and
Vrhovac, S. B.—
Influence of excited molecules on electron
swarm transport coefficients and gas
discharge kinetics 591
- Piller, G.—
See Kusaka, K. 139
- Qian, L.—
See Burden, C. J. 95
- Quartel, J. C.—
See Lowke, J. J. 539
- Raspopovic, Z. M.—
See Petrovic, Z. Lj. 591
- Roberts, C. D.—
See Burden, C. J. 95
- Robertson, A. G., Elford, M. T.,
Crompton, R. W., Morrison, M. A.,
Sun, W., and Trail, W. K.—
Rotational and vibrational excitation of
nitrogen by electron impact 441
- Robson, R. E.—
Diffusion cooling of electrons in an a.c.
field 577
- Rowley, N. —
Tunnelling in the presence of an
environment: Insights from the fusion
of heavy nuclei 731
- Roychowdhury, A.—
See Paul, S. N. 319
- Saito, K.—
See Guichon, P. A. M. 115
- Saito, K., Thomas, A. W., and Williams,
A. G.—
Preface to special issue on 'Quarks,
Hadrons and Nuclei' 1

- Sakai, Y.—
 See Akashi, H. 655
- Sasaki, S.—
 See Suganuma, H. 233
 Toki, H. 199
- Sauerzopf, F. M.—
 See Buntar, V. 329
- Saville, P. M.—
 See Brown, A. S. 391
- Sen, S.—
 Ballooning modes in a toroidally rotating plasma 935
- Shigetani, T., Suzuki, K., and Toki, H.—
 Structure functions of hadrons in the QCD effective theory 173
- Shin, H.—
 See Tatsumi, T. 23
- Shore, B. W.—
 See Fewell, M. P. 281
- Signal, A. I. —
 Higher twist structure functions 61
- Simpson, K. M.—
 See Kusaka, K. 147
- Singh, G. P., Ghosh, S. G., and Beesham, A.—
 A new class of Brans–Dicke cosmological models with causal viscous fluid 903
- Skullerud, H. R.—
 See England, J. P. 553
- Smith, A. G. K., and Clay, R. W.—
 Cosmic ray anisotropy studies with a small air shower array 827
- Smrz, P. K.—
 Construction of real space–time from complex linear metric connections 793
- Song, G. L., and Bursill, L. A.—
 HRTEM study of α -AlMnSi crystals including non-crystallographic projection axes 941
- Stauffer, A. D.—
 See McEachran, R. P. 511
- Steffens, F. M., and Thomas, A. W. —
 Polarised deep inelastic scattering 71
- Stevenson, K. P., Close, J. D., Muino, P. L., and Watts, R. O.—
 Potential energy surfaces for unsaturated hydrocarbons from crossed molecular beams 683
- Stewart, A. M.—
 Gauge explicit quantum mechanics and perturbation theory 869
 Gauge invariant magnetism 1061
- Suganuma, H.—
 See Toki, H. 199
- Suganuma, H., Umisedo, S., Sasaki, S., Toki, H., and Miyamura, O.—
 Monopole dominance for nonperturbative QCD 233
- Sun, W.—
 See Robertson, A. G. 441
- Suzuki, K.—
 See Shigetani, T. 173
- Suzuki, T.—
 See Morita, H. 53
- Tagashira, H.—
 See Akashi, H. 655
- Takizawa, M., Nemoto, Y., and Oka, M.—
 Eta-meson decays and strong UA(1) breaking in the three-flavour Nambu–Jona-Lasinio model 187
- Tanaka, K.—
 Spin structure functions of the nucleon and twist-3 operators in QCD 79
- Tandy, P. C.—
 See Burden, C. J. 95
- Tatsumi, T.—
 See Muto, T. 13
- Tatsumi, T., Shin, H., Maruyama, T., and Fujii, H.—
 Kaon condensation and dilepton production from strange hadronic matter 23
- Teubner, P. J. O.—
 See Campbell, L. 525
- Thomas, A. W.—
 See Guichon, P. A. M. 115
 Kusaka, K. 139
 Saito, K. 1
 Steffens, F. M. 71
- Thomson, M. J.—
 See Burden, C. J. 95
- Thurgate, S. M.—
 Auger spectroscopy and surface analysis 745
- Tilbrook, D.—
 General coordinatisations of the flat space–time of constant proper-acceleration 851
- Toki, H.—
 See Shigetani, T. 173
 Suganuma, H. 233
- Toki, H., Sasaki, S., Ichie, H., and Suganuma, H.—
 Chiral symmetry breaking in the dual Ginzburg–Landau theory 199
- Trail, W. K.—
 See Robertson, A. G. 441
- Troup, G. J.—
 See Derlet, P. M. 803
- Tsushima, K., Huang, S. W., and Faessler, A.—
 A study of reactions for kaon production in heavy ion collisions 35

- Ubachukwu, A. A.—
 Linear size evolution and luminosity
 selection effects in quasars 967
- Umisedo, S.—
 See Suganuma, H. 233
- Van Hieu, N.—
 Wave equations of Cooper pairs as
 quasiparticles in superconducting
 fermion systems 1035
- Viehland, L. A.—
 Theoretical answers to some
 experimental questions about gaseous
 ion transport 671
- Vishwakarma, R. G.—
 See Abdussattar 893
- Vrhovac, S. B.—
 See Petrovic, Z. Lj. 591
- Walet, N. R.—
 See Hosaka, A. 211
- Wang, J. B., Williams, J. F., and Carter,
 C. J.—
 A Monte Carlo study of radiation
 trapping effects 645
- Watts, R. O.—
 See Stevenson, K. P. 683
- Weber, H. W.—
 See Buntar, V. 329
- White, J. W. —
 See Brown, A. S. 391
- Williams, A. G.—
 See Kusaka, K. 139, 147
 Saito, K. 1
- Williams, D. R. M.—
 Driven granular media and dissipative
 gases: Phase transitions and
 instabilities 425
- Williams, J. F.—
 See Wang, J. B. 645
 Yu, D. H. 639
- Wolfendale, A. W.—
 Physics and the cosmos: The origin of
 cosmic rays of 'low' and 'very high'
 energies 723
- Yarovsky, I.—
 Atomistic simulation of interfaces in
 materials: Theory and applications
 407
- Yazaki, K.—
 See Ishii, N. 123
 Kohama, A. 131
- Yu, D. H., Hayes, P. A., Williams, J. F.,
 and Furst, J. E.—
 Polarised electron study of angular
 momentum coupling in the neon 3p
 states 639