



Keyword index Vol. 5, 2004

A

AC susceptibility – Bellioua M., 285
Acceleration mechanisms – Ostrowski M., 423 – Colgate S.A., 431
Accuracy – Chavandra J., 921
Acetylene – Boyé S., 239
Adiabatic pulses – Sakellariou D., 337
AdS/CFT – Zarembo K., 1081
AdS/CFT correspondence – Beisert N., 1039
AdS/CFT duality – Tseytlin A.A., 1049
Air showers – Sommers P., 463
Angles – Kovalevsky J., 893
Angular correlations – Engel R., 505
Anisotropies – Clay R.W., 473 – Engel R., 505
Antarctica – Alley R.B., 723
Astronomy – Kovalevsky J., 893
Asymptotic potential – Vanhaecke N., 161
Atmospheric fluorescence – Yoshida S., 483
Atmospheric sounding – Flaud J.-M., 259
Atom lithography – Nita F., 149
Atom optics – Nita F., 149
Atom trapping – Vanhaecke N., 161
Atomic clock – Sterr U., 845
Atomic clocks – Bize S., 829
Atomic fountains – Bize S., 829
Avogadro – Schwitz W., 881

B

Berry's phase – Jeener J., 393

Bethe ansatz – Beisert N., 1039 – Zarembo K., 1081
Bio-analysis – Kaarls R., 907
Biochip – Le Pioufle B., 589
Biomolecules – Petitprez D., 231
Bogoliubov theory – Rica S., 49
Bose gas – Pomeau Y., 39 – Carusotto I., 107
Bose–Einstein condensates – Aftalion A., 9
Bose–Einstein condensation – Rica S., 49 – Saint-Raymond L., 65 – Connaughton C., 91 – Lenoble O., 129
Bose-condensate – Jossierand C., 77
Boundary layers and obstacles – Pham C.-T., 3
Brane anti-brane models – Jones N., 1011
Brane world – Lüst D., 997

C

Carbon chains – Petitprez D., 231
Cascading gauge theory – Gubser S.S., 1031
Cassini–Huygens mission – Sotin C., 769
Cauchy problem – Saint-Raymond L., 65
Cell – Le Pioufle B., 589
Cesium – Vanhaecke N., 161
Chaos – Larger L., 609 – Mirasso C.R., 613 – Annovazzi-Lodi V., 623 – Peil M., 633 – Uchida A., 643 – Larger L., 669
Chaos encryption – Mirasso C.R., 613
Chaos masking – Liu J.-M., 657
Chaos modulation – Liu J.-M., 657
Chaos shift keying – Liu J.-M., 657
Chaotic communication – Liu J.-M., 657
Chaotic mixing – Dodge A., 557
Characteristic times – Commenge J.-M., 597
Chemical composition – Sommers P., 463 – Billoir P., 495
Climate – Weiss J., 735
Climate research – Flaud J.-M., 259
Collective oscillations – Guéry-Odelin D., 55
Collider physics – Bern Z., 955
Collision – Chaussard F., 249
Collisions – Boulet C., 201
Combustion – Chaussard F., 249
Communication – Uchida A., 643
Composite pulses – Sakellariou D., 337
Confinement – Korb J.-P., 349
Contact transformation – Chardonnet C., 171
Correlated fields – Sakellariou D., 337
Cosmic string interactions – Jones N., 1011
Cosmic strings – Copeland E.J., 1021
Cosmology – Copeland E.J., 1021
Cosmology: observations – Petitjean P., 411
Coulombic shear faults – Schulson E.M., 753
Crack extension – Schulson E.M., 753
Creep – Louchet F., 687 – Montagnat M., 699
Creep relaxation – Schulson E.M., 753

Cryptography – Annovazzi-Lodi V., 623

D

D-brane – Uranga A.M., 987
D-branes – Hori K., 1061
Decoding – Uchida A., 643
Deformation – Weiss J., 735
Delayed feedback – Peil M., 633
Delayed nonlinear dynamics – Larger L., 669
Detection techniques – Sommers P., 463
Diabatic – Jóhannesson H., 315
Diagnostic – Chaussard F., 249
Dielectrophoresis – Le Pioufle B., 589
Digital microfluidic – Fouillet Y., 577
Dilute repulsive Bose gas – Holzmänn M., 21
Dipolar interaction – Korb J.-P., 349
Dipolar line width – Gerhard P., 297
Direction finding – Clay R.W., 473
Dislocations – Louchet F., 687 – Montagnat M., 699
Dosimetry – Chavaudra J., 921
Droplets – Fouillet Y., 577

E

Electro-kinetic effects – Ajdari A., 539
ElectroHydroDynamique – Fouillet Y., 577
Electromagnetic component – Billoir P., 495
Electrowetting – Fouillet Y., 577
Encoding – Uchida A., 643
Encryption – Larger L., 609
Encryption using chaos – Larger L., 669
Energy loss – Stanev T., 453
Energy spectrum – Yoshida S., 483 – Engel R., 505
Equivalent circuits – Ajdari A., 539
Ex-situ NMR – Sakellariou D., 337

F

Femtosecond laser – Lavorel B., 215
Field cycling – Jóhannesson H., 315
Finite radius – Joyes P., 933
Fluid mechanics – Pham C.-T., 3

Fluorescence microscopy – Haerberlé O., 143
Flux background – Uranga A.M., 987
Force-free reconnection – Colgate S.A., 431
Four-dimensional string models – Uranga A.M., 987
Fractal and spectral dimensions – Korb J.-P., 349
Fracture – Weiss J., 735
Free field theory – Gopakumar R., 1111
Fundamental constants – Piquemal F., 857
Fundamental electrical standards – Piquemal F., 857

G

Gaisser–Hillas function – Sommers P., 463
Galileo mission – Sotin C., 769
Gauge theory – Lüst D., 997 – Zamaclar M., 1071
Gaugino – Lüst D., 997
General relativity – Guinot B., 821
Generalized Calabi–Yau manifolds – Graña M., 979
Glacier flow modelling – Le Meur E., 709
Greenland – Alley R.B., 723
GZK cutoff – Kachelrieß M., 441 – Stanev T., 453

H

Hagedorn phase transition – Aharony O., 945
Harmonic trap – Castin Y., 407
Heat treatments – Bellioua M., 285
Higher spin gauge theories – Vasiliev M.A., 1101
HS gauge fields – Bianchi M., 1091
Hyperfine structure – Vanhaecke N., 161

I

Ice – Louchet F., 687 – Montagnat M., 699
Ice viscosity – Sotin C., 769
Ice-sheet – Alley R.B., 723
Ice-shelf – Alley R.B., 723
Ice-stream – Alley R.B., 723

Icy satellites – Sotin C., 769
Individual: Q 0405–443, Q 0347–383 – Petitjean P., 411
Information theory – Uchida A., 643
Infrared – Flaud J.-M., 259
Inhomogeneous fields – Sakellariou D., 337
Inorganic analysis – Kaarls R., 907
Integrable spin chains – Beisert N., 1039
Intensification – Commenge J.-M., 597
Intensity anomalies – Tyuterev V.I.G., 189
Interaction representations – Jeener J., 393
Interferometry – Kovalevsky J., 893
Intermittency – Weiss J., 735
Internal mobility – Vugmeyster L., 377
International System of Units – Quinn T.J., 791
International system of units – Piquemal F., 857
Ionizing Radiation – Chavaudra J., 921
Isotopic effects – Tyuterev V.I.G., 189

J

Josephson effect – Piquemal F., 857

K

KAM curves – Dodge A., 557
Kilogram – Schwitz W., 881
Kinetic equation – Saint-Raymond L., 65
Kinetic theory – Connaughton C., 91
Knudsen number – Colin S., 521
Kronig–Penney model – Ouerghi F., 279

L

Lab On Chip – Fouillet Y., 577
Lab-on-chips – Minc N., 565
Laser cooling – Vanhaecke N., 161
Laser diode – Annovazzi-Lodi V., 623
Laser polarized xenon – Dubois L., 305
Laser spectroscopy – Sterr U., 845
Laser-cooled atoms – Bize S., 829
Laser-focused atom deposition – Nita F., 149

Lateral distribution function – Yoshida S., 483
Lattice friction – Louchet F., 687
Line shape – Chaussard F., 249
Line shapes – Boulet C., 201
Linear response – Ajdari A., 539
Lipari–Szabo – Vugmeyster L., 377
Liquid metal ion source – Joyes P., 933
Liquid–solid slip – Tabeling P., 531
LmSrBaCu₃O_{6+z} – Bellioua M., 285
Localization – Korb J.-P., 349
Long-range molecules – Vanhaecke N., 161
Longitudinal profile – Sommers P., 463
Lorentz invariance violation – Kachelrieß M., 441
Low density limit – Pomeau Y., 39
Low temperature–finite density limit – Pomeau Y., 39
Low-dimensional gas – Guéry-Odelin D., 55
LPM effect – Billoir P., 495

M

Magnetic fields (galactic and extragalactic) – Stanev T., 453
Magnetic hyperfine structure – Chardonnet C., 171
Magnetic Resonance Force Microscopy – Klein O., 325
Magnetic Resonance Imaging – Klein O., 325
Magneto-chiral absorption – Ruchon T., 273
Magneto-chiral interaction – Ruchon T., 273
Mass composition – Engel R., 505
Mass spectrum – Joyes P., 933
Matrix factorizations – Hori K., 1061
Mean field theory – Holzmann M., 21
Measurand – Kaarls R., 907
Measurement units – Kovalevsky J., 799
Measurements in extended spatial domains – Guinot B., 821
Metrology – Quinn T.J., 791 – Kaarls R., 907
Microbubbles – Baroud C.N., 547
Microchannel – Dodge A., 557
Microchip laser – Uchida A., 643

Microfluidic – Le Pioufle B., 589
Microfluidic flow – Baroud C.N., 547
Microfluidics – Colin S., 521 – Ajdari A., 539 – Minc N., 565
Micromixer – Dodge A., 557
Microstructuration – Commenge J.-M., 597
Microsystems – Le Pioufle B., 589
Microwave background – Stanev T., 453
Microwave frequency standards – Bize S., 829
Microwave spectroscopy – Petitprez D., 231
Miniaturization – Commenge J.-M., 597
Minor atmospheric constituents retrievals – Flaud J.-M., 259
Molecular complexes – Petitprez D., 231
Molecular spectroscopy – Flaud J.-M., 259
Moving bases – Jeener J., 393
Multifractal – Weiss J., 735
Muon content – Billoir P., 495

N

Nanofabrication – Nita F., 149
Nanostructures – Nita F., 149
Nanowire – Joyes P., 933
NMR sensors – Sakellariou D., 337
NMR theory – Jeener J., 393
Non-linear coherent and time resolved spectroscopy – Lavorel B., 215
Non-perturbative calculations – Holzmann M., 21
Nonlinear theories – Vasiliev M.A., 1101
Nuclear magnetic resonance (NMR) – Gerhard P., 297 – Dubois L., 305 – Vugmeyster L., 377

O

One-dimensional – Carusotto I., 107
One-sided NMR systems – Sakellariou D., 337
Open magnets – Sakellariou D., 337
Optical chaos communications – Mirasso C.R., 613
Optical frequency standard – Sterr U., 845
Optical pumping – Gerhard P., 297

Optical telecommunication – Larger L., 609
Optoelectronic oscillator – Larger L., 669
Order parameter – Vugmeyster L., 377
Organic analysis – Kaarls R., 907

P

Pantagruelic Higgs mechanism – Bianchi M., 1091
Para-hydrogen induced polarization – Jóhannesson H., 315
Particle sorting – Dodge A., 557
Pasteur's tartrates – Ruchon T., 273
Perfect Bose-gas – Lenoble O., 129
PHARAO – Bize S., 829
Photoassociation – Vanhaecke N., 161
Photon conversion in geomagnetic field – Billoir P., 495
Photonic band structure – Ouerghi F., 279
Planck constant – Schwitz W., 881
Plasticity – Louchet F., 687
Point sources – Clay R.W., 473
Polar ice sheets – Montagnat M., 699
Predissociation – Boyé S., 239
Pressure measurement – Lavorel B., 215
Primary methods – Kaarls R., 907
Procedures of 'higher order' – Kaarls R., 907
Process – Commenge J.-M., 597
Profils spectraux – Boulet C., 201
Projection operator technique – Charpentier T., 387
Protein dynamics – Korb J.-P., 349
Protein hydrophobic cavity – Dubois L., 305
Proton relaxation – Korb J.-P., 349
Protonic disorder – Louchet F., 687
PSF engineering – Haerberlé O., 143
Purity analysis – Kaarls R., 907

Q

QCD – Bern Z., 955
Quantum dynamics – Jeener J., 393
Quantum Hall effect – Piquemal F., 857
Quantum metrological triangle – Piquemal F., 857
Quasars: absorption lines – Petitjean P., 411

Quasiadiabatic evolution – Charpentier T., 387

R

Radiation Therapy – Chavaudra J., 921
Raman spectroscopy – Chaussard F., 249
Rarefaction – Colin S., 521
Rayleigh and Mie scattering – Yoshida S., 483
Reactor – Commenge J.-M., 597
Relaxation – Vugmeyster L., 377
Relaxation towards equilibrium – Saint-Raymond L., 65
REMPI – Boyé S., 239
Residual dipolar couplings – Skrynnikov N.R., 359
Rotating frames – Jeener J., 393
Rovibrational spectroscopy – Chardonnet C., 171
Rovibrational wavepacket – Lavorel B., 215
Rydberg state – Boyé S., 239

S

Satellite positioning systems – Guinot B., 821
Scaling transform – Castin Y., 407
Sea ice cover – Weiss J., 735
Sea-level – Alley R.B., 723
Secure communication – Peil M., 633
Security – Uchida A., 643
Semi-united atom – Boyé S., 239
Semiconductor laser – Peil M., 633
Semiconductor lasers – Mirasso C.R., 613
Shallow Ice Approximation – Le Meur E., 709
Shape parameter – Billoir P., 495
Shock waves – Ostrowski M., 423
Short cavity regime – Peil M., 633
Shower fluctuations – Yoshida S., 483
SI system – Kovalevsky J., 799
Simulations – Boyé S., 239
Single electron tunnelling – Piquemal F., 857
Slip flow – Colin S., 521
Slip length – Tabeling P., 531
Solution-state NMR – Skrynnikov N.R., 359
Space – Kovalevsky J., 893

Spectra – Tyuterev V.I.G., 189 – Boulet C., 201
Spectroscopy – Vanhaecke N., 161
Spin relaxation – Klein O., 325
Spin-rotation – Chardonnet C., 171
Spin-vibration – Chardonnet C., 171
SPINOE – Dubois L., 305
Statistical equilibrium – Josserand C., 77
Statistical methods – Clay R.W., 473
Stokes solution – Le Meur E., 709
Stratospheric ozone – Flaud J.-M., 259
String theory – Gopakumar R., 1111
String theory models – Jones N., 1011 – Gubser S.S., 1031 – Bianchi M., 1091 – Vasiliev M.A., 1101
String theory vacua – Douglas M.R., 965
Substitutions – Bellioua M., 285
Super Yang–Mills operators – Tseytlin A.A., 1049
Super-Yang–Mills theory – Bern Z., 955
Superfluidity – Pham C.-T., 3 – Rica S., 49 – Carusotto I., 107
Supermassive Dark Matter – Kachelrieß M., 441
Superposition model – Sommers P., 463
Superpotential – Hori K., 1061
Superstring theory – Copeland E.J., 1021
Supersymmetric backgrounds – Graña M., 979
Surface tension properties – Baroud C.N., 547
Synchronization – Mirasso C.R., 613 – Annovazzi-Lodi V., 623 – Peil M., 633 – Uchida A., 643

T

Tau neutrino detection – Billoir P., 495
Textures – Montagnat M., 699
Theory of spin-lattice relaxation – Korb J.-P., 349
Thermal micropumping – Colin S., 521
Thermodynamic observables – Charpentier T., 387
Thermodynamics – Rica S., 49
Thermometry – Lavorel B., 215
Till – Alley R.B., 723
Time of flight – Guéry-Odelin D., 55

Time standards – Guinot B., 821
Time-dependent projectors – Charpentier T., 387
Titan – Sotin C., 769
Topological defects – Kachelrieß M., 441
Traceability – Kaarls R., 907
Transfer – Commenge J.-M., 597
Two-dimension jellium – Joyes P., 933

U

UHE cosmic rays – Ostrowski M., 423 – Colgate S.A., 431
UHE neutrinos – Kachelrieß M., 441
Ultrafast phenomena – Lavorel B., 215
Unitary quantum gas – Castin Y., 407
Unstable branes – Zamaklar M., 1071

V

Vacuum statistics – Douglas M.R., 965
Variational calculations – Tyuterev V.I.G., 189
Vortices – Aftalion A., 9
VUV – Boyé S., 239

W

Warped deformed conifold – Gubser S.S., 1031
Watt balance – Schwitz W., 881
Wave turbulence – Josserand C., 77
Weakly coupled gauge theories – Aharony O., 945
Wetting properties – Baroud C.N., 547
Winter sea ice cover – Schulson E.M., 753

X

¹²⁹Xe – Gerhard P., 297
X-ray-diffraction – Bellioua M., 285

Z

Z-burst model – Kachelrieß M., 441
Z-rotations – Sakellariou D., 337