

Author Index

- Aloy, M. A., 479
Antonov, V. M., 40
Anzalone, A., 44
Asano, E., 220

Büchner, J., 106
Bárta, M., 252, 284
Beck, R., 325
Bellot Rubio, L. R., 140
Beresnyak, A., 72
Bettarini, L., 458
Blackman, E. G., 26
Bland, S., 26
Bocchi, M., 26, 429
Bomans, D. J., 389
Bommier, V., 291
Bonanno, A., 44
Bonanno, F., 153, 156
Bott, S. C., 429
Boyarinsev, E. L., 40
Braithwaite, J., 467
Brandenburg, A., 306, 373, 402, 461, 464, 473
Burdiak, G., 26
Burigana, C., 175, 268, 361
Burkhart, B., 365

Camenzind, M., 26
Campigotto, M., 410
Candelaresi, S., 461, 464
Capizzi, G., 153, 156
Carbone, V., 204
Cardaci, M. V., 369
Cayatte, V., 246
Cerdá-Durán, P., 479
Chernyshov, A. A., 80
Chittenden, J. P., 26, 429
Ciardi, A., 26, 429
Colgate, S. A., 2
Cramer, N. F., 224
Cremaschini, C., 228, 236

Díaz, A. I., 369
de Andrade, G. L. C., 393
de Gouveia Dal Pino, E. M., 62, 333, 482
de Grouchy, P., 26, 429
De Moortel, I., 129
De Rosa, A., 175, 361
Del Sordo, F., 373, 461
del Toro Iniesta, J. C., 140
Delmont, P., 441

Dmitruk, P., 116
Doğan, S., 137
Dolag, K., 376
Dubinova, A. A., 239
Duez, V., 467
Dyadechkin S., 89

Elstner, D., 348
Eriguchi, Y., 232, 437

Fárník, F., 255
Falceta-Gonçalves, D., 333, 482
Feretti, L., 340
Ferrari, A., 410
Fleishman, G. D., 243, 280, 314
Fletcher, L., 182
Frank, A., 26
Fujisawa, K., 232, 437

Gómez, D. O., 433
Gambino, N., 44
Gammino, S., 44
Ganse, U., 470
García-Muñoz, M., 162
Gezer, I., 85
Globus, N., 246
Greco, A., 116
Gressel, O., 348
Gruppuso, A., 268
Guglielmino, S. L., 140

Haerendel, G., 56
Hagele, G. F., 369
Hall, G. N., 26, 429
Hanasz, M., 355, 389, 398
Hardee, P. E., 445, 476
Harvey-Thompson, A., 26

Ibadov, S., 76, 92
Ibodov, F. S., 92

Janhunen, P., 89
Jarvinen R., 89
Jessner, A., 249
Ji, H., 10, 18
Johansen, A., 50

Küker, M., 143
Kašparová, J., 182
Kadyshevich, E. A., 95
Kallio E., 89
Karelsky, K. V., 80

- Karlický, M., 150, 201, 252, 255, 284
 Kato, M., 50
 Kemel, K., 473
 Keppens, R., 441
 Kitiashvili, I. N., 120
 Kleerin, N., 473
 Kliem, B., 125
 Kocharovskiy, V. V., 239
 Koldoba, A. V., 416
 Kosovichev, A. G., 120, 287
 Kotarba, H., 355, 376
 Kowal, G., 62, 333, 381, 398, 482
 Kowalik, K., 355, 398
 Kramer, M., 249
 Kronberg, P. P., 2
 Krongold, Y., 369
 Kulesza-Żydzik, B., 381, 398
 Kulpa-Dybel, K., 381, 398
 Kuznetsov, A., 314
- Labrosse, N., 182
 Lapenta, G., 458
 Laurenza, M., 204
 Lazarian, A., 62, 333, 365, 482
 Leão, M. R. M., 333
 Lebedev, S. V., 26, 429
 Lee, K. W., 106
 Lesch, H., 249, 376
 Li, H., 2
 Lominadze, J. D., 318
 Lovelace, R. V. E., 416
 Lynn, A., 36
 Lyubarsky, Y., 476
- Müller, E., 479
 Mészárosová, H., 150, 255
 Mackay, D., 192
 Manchester, W., 36
 Mandolesi, N., 268
 Mansour, N. N., 120
 Marocchino, A., 26
 Martínez Pillet, V., 140
 Masada, Y., 220
 Mascali, M., 44
 Mathis, S., 467
 Matsumoto, J., 220
 Matthaeus, W. H., 116
 Meduri, D., 204
 Melekhov, A. V., 40
 Meliani, Z., 441
 Melrose, D. B., 208
 Mierla, M., 165
 Mignone, A., 410
 Miller, J. C., 228, 236
 Mitra, M., 306
 Mittal, N., 146
- Mizuno, Y., 445, 476
 Molodij, G., 291
 Musumeci, F., 44
 Naab, T., 376
 Napoli, C., 153, 156
 Niemiec, J., 445
 Nigro, G., 159
 Nishikawa, K.-I., 445, 476
 Nita, G. M., 280
- Obergalinger, M., 162, 479
 Orlando, A., 165
 Ostrovskii, V. E., 95
 Otmianowska-Mazur, K., 381, 389, 398
- Pascoe, D. J., 129
 Pekünlü, E. R., 85, 137
 Perrone, D., 159, 168
 Pessah, M. E., 449
 Petrosyan A. S., 80
 Piccinelli, G., 385
 Podesta, J. J., 295
 Pohl, M., 445
 Pomoell, J., 102
 Ponomarenko, A. G., 40
 Popova, H., 172
 Porth, O., 258
 Posukh, V. G., 40
 Procopio, P., 175, 268, 361
 Prosecký, T., 182
- Rüdiger, G., 143
 Rembiasz, T., 479
 Ricciardi, S., 268
 Rodriguez-Pascual, P., 369
 Rogachevskii, I., 473
 Romano, P., 165
 Romanova, M. M., 416
 Roth, I., 178
 Rubio da Costa, F., 182
 Rust, S., 125
 Rybák, J., 150
 Rüdiger, G., 348
- Sano, T., 50
 Santos-Lima, R., 333, 482
 Santos-Lleó, M., 369
 Sauty, C., 246
 Seehafer, N., 125
 Semenov, V. S., 89
 Servidio, S., 116
 Shaikhislamov, I. F., 40
 Shibata, K., 220
 Siejkowski, H., 381, 389
 Siversky, T., 453
 Smyrli, A., 192

- Soida, M., 389
Solanki, S. K., 140
Spadaro, D., 165
Spanier, F., 263, 470
Stepanov, A. V., 302
Stepanov, R., 185
Stone, J. M., 422
Storini, M., 204
Strassmeier, K. G., 274
Suzuki-Vidal, F., 26, 429
Swalding, G., 26

Takahashi, Y., 437
Terasawa, T., 214
Ternullo, M., 195
Tessarotto, M., 228, 236
Trigilio, C., 175
Trotta, E. M., 198
Tsap, Y. T., 302
Tudisco, S., 44

Umana, G., 175
Urtiev, F. A., 243
Ustyugova, G. V., 416

Vainio, R., 102, 470
Valentini, F., 168
Vandas, M., 201
Vecchio, A., 204
Veltri, P., 159, 168
Ventura, R., 165
Vishniac, E., 62
Volegova, A., 185

Wóltański, D., 355, 398
Warnecke, J., 306
Watts, C., 36
Weidinger, M., 263
Wray, A. A., 120
Wright, A. N., 129

Yamada, M., 10
Yoshida, S., 232, 437

Zakharov, Yu. P., 40
Zhang, B., 445
Zhang, Y., 36
Zharkova, V. V., 453
Zimbardo, G., 198
Zuccarello, F., 140, 182, 192, 310
Zuccarello, F. P., 165

Object Index

- acceleration, 62
- acceleration of particles, 2, 137, 162, 201, 243, 249, 263, 457
- acceleration, cosmic rays, 214
- accretion, 416, 449
- accretion disks, 18, 50, 228, 236, 318, 416, 422, 449
- auroral acceleration, 56
- BL Lacertae objects: individual (1 ES 1218+30.4, PKS 2155-304), 263
- black hole physics, 246
- circumstellar matter, 175
- comets, 76
- convection, 143
- cooling flows, 340
- coronal mass ejections, 146
- cosmic dust, 76
- cosmic microwave background, 268
- cosmic rays, 62
- cosmology, 268
- cosmology: cosmic microwave background, 361
- diffusion, 302
- diffusive shock acceleration, 214
- dynamics, 348
- dynamo models, 159
- early universe, 388, 393
- electric currents, 56
- elementary particles, 388, 393
- field aligned current, 40
- formation, 50
- galaxies, 2
- galaxies: active, 258, 263, 369
- galaxies: clusters: general, 340
- galaxies: evolution, 398
- galaxies: individual (UGC 11763, ESO 359-G19, HE 1143-1810, CTS A08.12, Mkn 110), 369
- galaxies: interactions, 376, 381
- galaxies: ISM, 355, 376, 381
- galaxies: jets, 243, 246, 258, 263
- galaxies: jets, 239
- galaxies: magnetic fields, 325, 355, 373, 376, 381, 389, 398
- galaxies: Seyfert, 369
- galaxies: spiral, 325
- heliosphere, 214
- high velocity collisions, 76
- high-temperature plasma, 76
- hydrodynamics, 18, 26, 44, 429
- hydromagnetic instabilities, 479
- instabilities, 18, 249, 422, 441, 449, 458, 476
- instrumentation: high angular resolution, 284, 310
- instrumentation: interferometers, 284
- instrumentation: polarimeters, 274, 325
- intergalactic medium, 340, 482
- interplanetary medium, 295
- ISM: bubbles, 373
- ISM: cosmic rays, 355, 398
- ISM: general, 365
- ISM: jets and outflows, 26, 246, 429
- ISM: kinematics and dynamics, 72, 80
- ISM: magnetic fields, 185, 325, 433
- ISM: supernova remnants, 348
- jets, 2
- Jupiter, 85
- kinetic theory, 228, 236
- knots, 178
- laboratory, 18, 36
- line: profiles, 291
- low latitude boundary layer, 40
- magnetic field, 453
- magnetic fields, 2, 120, 125, 153, 156, 208, 228, 236, 243, 274, 302, 340, 348, 388, 393, 485
- magnetic reconnection, 62
- magnetic reversals, 159
- magnetosphere, 40, 56
- MCMC, 175
- methods, 18
- methods: data analysis, 153, 156, 185, 255
- methods: laboratory, 26, 429
- methods: numerical, 80, 89, 102, 116, 182, 280, 291, 314, 376, 381, 398, 429, 470
- methods: numerical, 422
- methods: statistical numerical, 365
- MHD, 18, 50, 72, 116, 125, 129, 162, 172, 220, 246, 306, 318, 333, 355,

- 416, 422, 433, 441, 445, 449, 458,
467, 473, 476, 482
MHD turbulence, 159
multicharge ions, 76
- N-body simulations, 376, 381
neutron stars, 56, 220
nonlinearity, 214
nuclear reactions, 44
numerical, 220
- outflows, 437
- photosphere, 120
planetary nebulae, 175
planetary systems, 50
planets and satellites: formation, 95
plasma astrophysics general, 76
plasmas, 18, 26, 36, 44, 120, 168, 208,
224, 228, 236, 239, 258, 287, 302,
333, 422, 429, 453, 458, 482
polarization, 208, 258, 291
prominence eruptions, 146
pulsars, 224
pulsars: general, 208, 249
- radiation mechanisms: general, 252
radiation mechanisms: non-thermal, 243,
258, 280
radiation mechanisms: nonthermal, 263,
314, 340, 470
radiative transfer, 182, 258, 291, 361
radio continuum: galaxies, 325
radio continuum: general, 314, 340
reconnection, 178
reconstruction schemes, 479
relativistic, 220
relativistic electrons, 178
relativistic jets, 476
relativistic shock, 445
relativity, 258
Riemann solvers, 479
RRATs, 85
- shell models, 159
shock waves, 102, 201, 243, 263, 441,
470
solar flares, 178
solar impact plasma, 92
solar photospheric flares, 92
solar system: formation, 95
solar wind, 89, 102, 116, 153, 156, 295
solar-terrestrial relations, 102
space missions, 268
stars: activity, 143
stars: flare, 314
stars: flares, 280
stars: formation, 302, 333
stars: interior, 232
stars: magnetic fields, 232, 274, 416,
437, 467
stars: neutron, 232
stars: rotation, 437
stars: white dwarfs, 232
stars: winds, 437
stellar dynamics, 89
Sun, 146
Sun: activity, 140, 143, 153, 156, 195,
204
Sun: atmosphere, 129, 182
Sun: chromosphere, 302, 310
Sun: convection, 192
Sun: corona, 129, 137, 150, 201, 280
Sun: coronal mass ejections, 36, 102,
125, 165, 306
Sun: evolution, 95
Sun: flares, 150, 162, 182, 255, 280, 287,
314, 453
Sun: general, 92
Sun: granulation, 120
Sun: helioseismology, 287
Sun: interior, 192
Sun: magnetic fields, 129, 140, 165, 192,
195, 204, 280, 287, 291, 306, 310,
402, 458, 461, 464
Sun: oscillations, 129, 150, 255
Sun: photosphere, 140, 192, 287, 310
Sun: plasmas, 137
Sun: radio, 284
Sun: radio radiation, 150, 252, 280, 314,
470
Sun: solar wind, 140
Sun: sunspots, 195, 287
Sun: X-rays, 255
sungrazing comets, 92
sunspots, 120, 473
supernova remnants, 214
- techniques: high angular resolution, 140
techniques: spectroscopic, 274
turbulence, 50, 72, 80, 116, 120, 168,
172, 295, 306, 318, 333, 348, 365,
422, 433, 445, 449, 473
- wave-particle interaction, 85
waves, 129, 137, 162, 168, 172, 224, 239,
252, 295, 470
- X-ray radiation, 76
X-rays: galaxies, 369

Go Mobile

CJO Mobile (CJOM) is a streamlined
Cambridge Journals Online (CJO)
for smartphones and other
small mobile devices



- Use CJOM to access all journal content including *FirstView* articles which are published online ahead of print
- Access quickly and easily thanks to simplified design and low resolution images
- Register for content alerts or save searches and articles – they will be available on both CJO and CJOM
- Your device will be detected and automatically directed to CJOM via: journals.cambridge.org



CAMBRIDGE
UNIVERSITY PRESS

CAMBRIDGE

JOURNALS

Advertise in Cambridge Journals

To advertise in this journal and for details of pricing,
availability and discount opportunities please contact:

Advertise here

With over 250 titles to choose from our extensive list of journals ensures you will always find your suitable target audience. Our journals span over 32 subject areas, ranging from Agriculture, Archaeology and Anthropology, Nutrition, to Psychology and Cognitive Science, Religion and Social Studies. Print advertising, inserts and banner advertising are available for a majority of our titles.

To access Cambridge Journals please visit:
journals.cambridge.org

CAMBRIDGE UNIVERSITY PRESS

Go Mobile

CJO Mobile (CJOm) is a streamlined Cambridge Journals Online (CJO) for smartphones and other small mobile devices

- Use CJOm to access all journal content including FirstView articles which are published online ahead of print
- Access quickly and easily thanks to simplified design and low resolution images
- Register for content alerts or save searches and articles – they will be available on both CJO and CJOm
- Your device will be detected and automatically directed to CJOm via: journals.cambridge.org

CAMBRIDGE UNIVERSITY PRESS

Advertising in UK, Europe and Rest of World

The Advertising Sales Team
Cambridge University Press
The Edinburgh Building,
Shaftesbury Road,
Cambridge, UK, CB2 8RU
Tel: +44 (0) 1223 325083
Email: ad_sales@cambridge.org

Advertising in Americas

Journals Advertising Coordinator
32 Avenue of the Americas,
New York, NY 10013-2473, USA
Tel: +1 (212) 337 5053
Fax: +1 (212) 337 5959
Email:
journals_advertising@cambridge.org



CAMBRIDGE
UNIVERSITY PRESS

International Journal of Astrobiology

Managing Editor

Simon Mitton, University of Cambridge , UK

International Journal of Astrobiology is the peer-reviewed forum for practitioners in this exciting interdisciplinary field. Coverage includes cosmic prebiotic chemistry, planetary evolution, the search for planetary systems and habitable zones, extremophile biology and experimental simulation of extraterrestrial environments, Mars as an abode of life, life detection in our solar system and beyond, the search for extraterrestrial intelligence, the history of the science of astrobiology, as well as societal and educational aspects of astrobiology. Occasionally an issue of the journal is devoted to the keynote plenary research papers from an international meeting. A notable feature of the journal is the global distribution of its authors.

Price information

is available at: <http://journals.cambridge.org/ija>

Free email alerts

Keep up-to-date with new material – sign up at
<http://journals.cambridge.org/ija-alerts>

***International Journal of
Astrobiology***

is available online at:
<http://journals.cambridge.org/ija>

**To subscribe contact
Customer Services****in Cambridge:**

Phone +44 (0)1223 326070
Fax +44 (0)1223 325150
Email journals@cambridge.org

in New York:

Phone +1 (845) 353 7500
Fax +1 (845) 353 4141
Email
subscriptions_newyork@cambridge.org

For free online content visit:
<http://journals.cambridge.org/ija>



CAMBRIDGE
UNIVERSITY PRESS

IAU Symposium No. 274

6–10 September 2010
Giardini Naxos, Italy

Advances in Plasma Astrophysics

The importance of connecting astrophysical theory, observations, simulations and laboratory astrophysics is nowadays widely appreciated by the scientific community. IAU Symposium 274 discusses recent observational, theoretical and experimental efforts in understanding the basic plasma processes in the Universe at all scales, from the primordial plasmas of the early Universe to stellar and laboratory plasmas. Experts from different fields examine topics including: the origin and dynamics of magnetic fields in astrophysical systems (the dynamo problem); the origin of x-ray emitting coronas and the role of magnetic reconnection; the acceleration of charged particles; winds and jets from highly-evolved stars and supernova remnants; plasma radiation processes; turbulence of the magnetized plasma in astrophysical objects and in the ISM, IGM and the solar wind; quantum plasmas under extreme conditions in planetary interiors and in exotic stars; and many other key problems in modern plasma astrophysics.

Proceedings of the International Astronomical Union

Editor in Chief: Prof. Thierry Montmerle

This series contains the proceedings of major scientific meetings held by the International Astronomical Union. Each volume contains a series of articles on a topic of current interest in astronomy, giving a timely overview of research in the field. With contributions by leading scientists, these books are at a level suitable for research astronomers and graduate students.

International Astronomical Union



Mixed Sources
Product group from well-managed forests and other controlled sources
www.fsc.org Cert no. SA-COC-1527
© 1996 Forest Stewardship Council

Proceedings of the International Astronomical Union

Cambridge Journals Online

For further information about this journal please

go to the journal website at:

journals.cambridge.org/iau

CAMBRIDGE
UNIVERSITY PRESS

ISBN 978-0-521-19741-0



9 780521 197410 >