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Publications

A Spontaneously Electrical State of Matter

Cassidy, A., McCoustra, M. R. S. & Field, D., 18 Jul 2023, In: Accounts of Chemical Research. 56, 14, p. 1909-1919 11 p.

Hidden singularities in spontaneously polarized molecular solids

Cassidy, A., Pijpers, F. P. & Field, D., Apr 2023, In: Journal of Chemical Physics. 158, 14, 7 p., 144501.

The rise of an exciton in solid ammonia

Cassidy, A., James, R. L., Dawes, A. & Field, D., 18 Jan 2022, In: Chemical Communications. 58, 6, p. 815-818 4 p.

Low temperature aging in a molecular glass: The case of: cis -methyl formate

Cassidy, A., Jørgensen, M. R. V., Glavic, A., Lauter, V., Plekan, O. & Field, D., Aug 2021, In: Physical Chemistry Chemical Physics. 23, 29, p. 15719-15726 8 p.

A mechanism for ageing in a deeply supercooled molecular glass

Cassidy, A., Jørgensen, M. R. V., Glavic, A., Lauter, V., Plekan, O. & Field, D., 4 Jul 2021, In: Chemical Communications. 57, 52, p. 6368-6371 4 p.

Comment on "spontaneous Polarization of Cryo-Deposited Films for Five Normal Saturated Monohydroxy Alcohols, C_nH_{2n+1}OH, n = 1-5"

Field, D. & Cassidy, A., Jul 2021, In: Journal of Physical Chemistry B. 125, 27, p. 7568-7569 2 p.

Crystallites and Electric Fields in Solid Ammonia

Cassidy, A., James, R. L., Dawes, A. & Field, D., 1 Oct 2020, In: ChemistryOpen. 9, 10, p. 983-990 8 p.

Sydney Leach

J.P.Simons & C.Cockell, 16 Sept 2020, In: Biogr.Mems.Fell.R.Soc.. 69, p. 313-332 20 p.

Acceleration of ion recombination reaction rates in cold dark clouds through spontaneous polarization charge on CO ice mantles

Cassidy, A., Rosu-Finsen, A., Lasne, J., McCoustra, M. R. S. & Field, D., 2020, In: Proceedings of the International Astronomical Union. 15, S350, p. 390-391 2 p.

The optical absorption spectra of spontaneously electrical solids: The case of nitrous oxide

Cassidy, A., James, R. L., Dawes, A., Lasne, J. & Field, D., 1 Jan 2019, In: Physical Chemistry Chemical Physics. 21, 3, p. 1190-1197 8 p.

Electrons in space: the final (and first) frontier

Mason, N. J. & Field, D., 2019, *Low energy electrons: fundamentals and applications*. Ingólfsson, O. (ed.). Singapore: Pan Stanford Publishing Pte Ltd Singapore, p. 371-406

Librating dipoles as a probe of spontaneously electrical films and as a source of THz radiation

Field, D., 2019, In: Physical Chemistry Chemical Physics. 21, 48, p. 26606-26614 9 p.

Assigning a structural motif using spontaneous molecular dipole orientation in thin films

Roman, M., Dunn, A., Taj, S., Keolopile, Z. G., Rosu-Finsen, A., Gutowski, M., McCoustra, M. R. S., Cassidy, A. M. & Field, D., 14 Dec 2018, In: Physical Chemistry Chemical Physics. 10, 46, p. 29038-29044 7 p.

Non-linear and non-local behaviour in spontaneously electrical solids

Roman, M., Taj, S., Gutowski, M., McCoustra, M. R. S., Dunn, A. C., Keolopile, Z. G., Rosu-Finsen, A., Cassidy, A. M. & Field, D., 21 Feb 2018, In: Physical Chemistry Chemical Physics. 20, 7, p. 5112-5116 5 p.

Wannier-Mott Excitons in Nanoscale Molecular Ices

Chen, Y.-J., Munoz Caro, G. M., Aparicio, S., Jimenez-Escobar, A., Lasne, J., Rosu-Finsen, A., McCoustra, M. R. S., Cassidy, A. M. & Field, D., 13 Oct 2017, In: Physical Review Letters. 119, 15, 5 p., 157703.

A review of recent progress in understanding the spontelectric state of matter

Plekan, O., Rosu-Finsen, A., Cassidy, A. M., Lasne, J., McCoustra, M. R. S. & Field, D., 1 Jun 2017, In: The European Physical Journal D: Atomic, Molecular, Optical and Plasma Physics. 71, 6, 8 p., 162.

Spontaneous polarization of solid CO on water ices and some astrophysical implications

Rosu-Finsen, A., Lasne, J., Cassidy, A., McCoustra, M. R. S. & Field, D., 21 Feb 2016, In: Physical Chemistry Chemical Physics. 18, 7, p. 5159-71 13 p.

Dipole-Oriented Molecular Solids Can Undergo a Phase Change and Still Maintain Electrical Polarization

Cassidy, A., Jørgensen, M. R. V., Rosu-Finsen, A., Lasne, J., Jørgensen, J. H., Glavic, A., Lauter, V., Iversen, B. B., McCoustra, M. R. S. & Field, D., 2016, In: The Journal of Physical Chemistry Part C: Nanomaterials, Interfaces and Hard Matter. 120, 42, p. 24130-24136 7 p.

Enabling Star Formation via Spontaneous Molecular Dipole Orientation in Icy Solids

Rosu-Finsen, A., Lasne, J., Cassidy, A., McCoustra, M. R. S. & Field, D., 2016, In: The Astrophysical Journal. 832, 1

Chiral recognition in electron scattering by S- and R-2-butanol

Jones, N. C., Hoffmann, S. V. & Field, D., Sept 2015, In: Molecular Physics. 113, 15-16, p. 2197-2203 7 p.

Spontaneous electric fields in solid carbon monoxide

Lasne, J., Rosu-Finsen, A., Cassidy, A., McCoustra, M. R. S. & Field, D., 2015, In: Physical Chemistry Chemical Physics. 17, 44, p. 30177-30187 11 p.

Spontaneously electrical solids in a new light

Lasne, J., Rosu-Finsen, A., Cassidy, A., McCoustra, M. R. S. & Field, D., 2015, In: Physical Chemistry Chemical Physics. 17, 32, p. 20971-20980 10 p.

Dynamical structure of the inner 100 AU of the deeply embedded protostar IRAS 16293-2422

Favre, C., Jørgensen, J. K., Field, D., Brinch, C., Bisschop, S. E., Bourke, T. L., Hogerheijde, M. R. & Frieswijk, W. W. F., 20 Jul 2014, In: Astrophysical Journal. 790, 1, 55.

Electric Field Structures in Thin Films: Formation and Properties

Cassidy, A., Plekan, O., Balog, R., Dunger, J., Field, D. & Jones, N. C., 2014, In: Journal of Physical Chemistry Part A: Molecules, Spectroscopy, Kinetics, Environment and General Theory. 118, p. 6615-6621 7 p.

Investigations into the nature of spontelectrics: nitrous oxide diluted in xenon

Cassidy, A., Plekan, O., Dunger, J., Balog, R., Jones, N. C., Lasne, J., Rosu-Finsen, A., McCoustra, M. R. S. & Field, D., 2014, In: Physical Chemistry Chemical Physics. 16, 43, p. 23843-23853 11 p.

¹³C-methyl formate: Observations of a sample of high-mass star-forming regions including Orion-KL and spectroscopic characterization

Favre, C., Carvajal, M., Field, D., Jørgensen, J. K., Bisschop, S. E., Brouillet, N., Despois, D., Baudry, A., Kleiner, I., Bergin, E. A., Crockett, N. R., Neill, J. L., Margulès, L., Huet, T. R. & Demaison, J., 2014, In: Astrophysical Journal Supplement Series. 215, 2, 31 p., 25.

Spontaneous electric fields in films of CF₃Cl, CF₂Cl₂ and CFCI₃

Cassidy, A., Plekan, O., Balog, R., Jones, N. C. & Field, D., 2013, In: Physical Chemistry Chemical Physics. 15, 1, p. 108-113 6 p.

Spontaneous electric fields in solid films: spontelectrics

Field, D., Plekan, O., Cassidy, A., Balog, R., Jones, N. C. & Dunger, J., 2013, In: International Reviews in Physical Chemistry. 32, 3, p. 345-392 48 p.

A 3D view of the outflow in the Orion Molecular Cloud 1 (OMC-1)

Nissen, H. D., Cunningham, N. J., Sherson, M. G., Bally, J., Lemaire, J.-L., Favre, C. & Field, D., 1 Jan 2012, In: Astronomy & Astrophysics. 540, 11 p.

Spontaneous electric fields in films of *cis*-methyl formate

Plekan, O., Cassidy, A., Balog, R., Jones, N. C. & Field, D., 2012, In: Physical Chemistry Chemical Physics. 14, p. 9972-9976 5 p.

A new type of interference phenomenon in cold collisions of electrons with N₂

Sulc, M., Curik, R., Ziesel, J.-P., Jones, N. C. & Field, D., 13 Sept 2011, In: Journal of Physics B: Atomic, Molecular and Optical Physics. 44, p. 195204 7 p.

A new class of spontaneously polarized materials

Field, D., Plekan, O., Cassidy, A., Balog, R. & Jones, N. C., 2011, In: Europhysics News. 42, 6, p. 32-35 4 p.

A new form of spontaneously polarized material

Plekan, O., Cassidy, A., Balog, R., Jones, N. C. & Field, D., 2011, In: Physical Chemistry Chemical Physics. 13, p. 21035-21044 10 p.

The influence of the substrate temperature on the preparation of DNA films for studies under vacuum conditions

Smialek, M. A., Jones, N. C., Balog, R., Mason, N. J. & Field, D., 2011, In: The European Physical Journal D: Atomic, Molecular, Optical and Plasma Physics. 62, p. 197-203 7 p.

Transmission and Trapping of Cold Electrons in Water Ice

Balog, R., Cicman, P., Field, D., Jones, N. C., Feketeova, L., Hoydalsvik, K., Field, T. A. & Ziesel, J.-P., 2011, In: Journal of Physical Chemistry Part A: Molecules, Spectroscopy, Kinetics, Environment and General Theory. 115, p. 6820 5 p.

VLT/NACO near-infrared imaging and spectroscopy of N88A in the SMC

Testor, G., Lemaire, J. L., Heydari-Malayeri, M., Kristensen, L. E., Diana, S. & Field, D., 1 Dec 2010, In: Astronomy and Astrophysics. 510, 1, A95.

3D model of bow shocks

Gustafsson, M., Ravkilde, T., Kristensen, L. E., Cabrit, S., Field, D. & Pineau Des Forêts, G., 1 Apr 2010, In: Astronomy and Astrophysics. 513, A5.

Novel ferroelectric behaviour of N₂O films: spontaneous potentials of up to 40 V

Plekan, O., Ringbæk, T., Jones, N. C., Balog, R., Cicman, P. & Field, D., 2010.

Preparation of DNA films for studies under vacuum conditions: The influence of cations in buffer solutions

Smialek, M. A., Balog, R., Jones, N. C., Field, D. & Mason, N. J., 2010, In: The European Physical Journal D: Atomic, Molecular, Optical and Plasma Physics. 60, 1, p. 31-36

Spontaneous Dipole Alignment in Films of N₂O

Balog, R., Cicman, P., Jones, N. C. & Field, D., 2009, In: Physical Review Letters. 102, 7, p. 073003 4 p.

Low-energy total electron scattering in the methyl halides CH₃Cl, CH₃Br and CH₃I

Jones, N. C., Field, D. & Ziesel, J. P., 1 Nov 2008, In: International Journal of Mass Spectrometry. 277, 1-3, p. 91-95 5 p.

Observational 2D model of H₂ emission from a bow shock in the Orion Molecular Cloud

Kristensen, L. E., Ravkilde, T. L., Des Forêts, G. P., Cabrit, S., Field, D., Gustafsson, M., Diana, S. & Lemaire, J. L., 1 Jan 2008, In: Astronomy and Astrophysics. 477, 1, p. 203-211 9 p.

Low-energy total electron scattering in the methyl halides CH₃Cl, CH₃Br and CH₃I

Jones, N. C., Field, D. & Ziesel, J.-P., 2008, In: International Journal of Mass Spectrometry. 277, p. 91-95

Observational 2D model of H-2 emission from bow shock in the Orion Molecular Cloud

Kristensen, L. E., Ravkilde, T. L., des Forets, G. P., Cabrit, S., Field, D., Gustafsson, M., Diana, S. & Lemaire, J. L., 2008, In: Astronomy & Astrophysics. 477, 1, p. 203-211

Scattering of cold electrons by ammonia, hydrogen sulfide, and carbonyl sulfide

Jones, N. C., Field, D., Lunt, S. L. & Ziesel, J.-P., 2008, In: Physical Review A. 78, 4, p. 042714-1 - 042714-9

Electrons in the interstellar medium

Field, D., Balog, R., Feketeova, L., Jones, N. C., Cicman, P., Hoydalsvik, K., Nissen, H. D., Curik, R., Field, T. A. & Ziesel, J.-P., 2007. 4 p.

Excitation conditions in the Orion molecular cloud obtained from observations of ortho- and para-lines of H₂

Kristensen, L. E., Ravkilde, T. L., Field, D. & Pineau de Forêts, G., 2007, In: Astronomy & Astrophysics. 469, p. 561-574

Low energy electron interactions with molecules in the condensed phase

Field, D., Cicman, P., Balog, R., Jones, N. C., Høydalsvik, K., Field, T. A. & Ziesel, J. P., 2007.

Low Energy Electron Interactions with Molecules in the Condensed Phase

Cicman, P., Balog, R., Feketeova, L., Jones, N. C., Høydalsvik, K., Field, D., Field, T. A., Graupner, K. & Ziesel, J. P., 2007.

Model Results for shocked gas in active star forming regions

Kristensen, L. E., Ravkilde, T. L., Pineau de Forêts, G., Cabrit, S., Field, D., Sherson, M. G. & Lemaire, J. L., 2007, In: Molecules in Space and Laboratory, Paris, 2007. p. 1-4

Observations of spatial and velocity structure in the Orion molecular cloud

Nissen, H. D., Sherson, M. G., Lemaire, J. L., Clenet, Y., Rouan, D. & Field, D., 2007, In: Astronomy & Astrophysics. 466, p. 949-968

VLT/NACO near-infrared imaging and spectroscopy of N159-5in the LMC HII complex N159

Testor, G., Lemaire, L., Kristensen, L. E., Field, D. & Diana, S., 2007, In: Astronomy and Astrophysics. 469, p. 459-469

Cold Electron Collisions in Plasmas

Field, D., Jones, N. C., Cicman, P., Balog, R., Curik, R., Ziesel, J.-P. & Field, T. A., 2006, *Contributions: 15th Symposium on Atomic and Surface Physics and Related Topics*. Habitzel, K., Mark, T. D. & Stehno, B. (eds.). Innsbruck University Press, p. 46-49 4 p.

First results for turbulence at the 100 AU Scale: Protostars in Orion

Sherson, M. G., Field, D., Lemaire, J. L. & Pijpers, F. P., 2006.

Low Energy Electron Transmission through Acetic Acid and Fluorobenzene

Cicman, P., Balog, R., Jones, N. C. & Field, D., 2006.

NACO near-infrared imaging and spectroscopy of N159A in the LMC HII complex N159

Testor, G., Lemaire, J. L. & Field, D., 2006, In: *Astronomy & Astrophysics*. 453, p. 517-524

Rotational Excitation of H₂O by Cold Electrons

Curik, R., Ziesel, J.-P., Jones, N. C., Field, T. & Field, D., 2006, In: *Physics Review Letters*. 97, p. 123202 4 p.

Velocities of gas in star-forming regions: 70AU resolution and 1 km/s results for OMC1.

Nissen, H. D., Sherson, M. G., Lemaire, J. L., Clénet, Y., Rouan, D. & Field, D., 2006.

A New Instrument to Study Cold Electron-Solid Interactions

Cicman, P., Balog, R., Jones, N. C., Field, D. & Ziesel, J.-P., 2005.

Astronomy and Astrobiology

Field, D., 2005, In: *Europhysics News*. 36, 2, p. 51-55

Experimental study of H₂ formation on ices

Hornekær, L., Baurichter, A., Petrunin, V. V., Field, D. & Luntz, A. C., 2005, *Proceedings IAU Symposium No. 231*. Lis, D. S., Blake, G. A. & Herbst, E. (eds.). p. 337

Low-Energy Electron Scattering from Water

Jones, N. C., Field, T. A., Ziesel, J.-P., Gorfinkiel, J., Faure, A., Tennyson, J. & Field, D., 2005.

N88: The physical properties of a compact star-forming region and its neighbourhood in the SMC. II. H and H₂ near infrared emission

Testor, G., Lemaire, J. L., Field, D. & Callejo, G., 2005, In: *Astronomy and Astrophysics*. 434, 2, p. 497-506

OH megamasers, starburst and AGN activity in Markarian 231

Richards, A. M. S., Knapen, J. H., Yates, J. A., Cohen, R. J., Collett, J. L., Wright, M. M., Gray, M. D. & Field, D., 2005, In: *Mon. Not. Roy. Astron. Soc.* 364, p. 353-366

The determination of absolute anion formation cross sections from electron beam scattering data

Ziesel, J.-P., Jones, N. C., Field, D. & Madsen, L. B., 2005, In: *Journal of Chemical Physics*. 122, p. 024309

The molecular gas behaviour in Kleinmann-Low nebula

Callejo, G., Lemaire, J. L., Le Petit, F., Pineau Des Forêts, G. & Field, D., 2005, *Proceedings of the dusty and molecular universe: a prelude to Herschel and ALMA*. p. 489-490

Time Delays and Cold Collisions

Field, D., Jones, N. C. & Ziesel, J.-P., 2005, *Electron Scattering*. 1 ed. Kluwer Academic Publishers, p. 45-54

Virtual state scattering with cold electrons: para-xylene and para-difluorobenzene

Jones, N. C., Field, D., Ziesel, J.-P. & Field, T. A., 2005, In: *Journal of Chemical Physics*. 122, 7

Astronomy and astrobiology

Field, D., 2004, In: *Europhysics News*. 36, 2, p. 51

Cold electron scattering by a chiral molecule

Struve, I., Cahillane, P., Jones, N. C., Hoffmann, S. V., Madsen, L. B., Field, D. & Ziesel, J. P., 2004.

Cold Electron Scattering by a Chiral Molecule

Struve, I., Cahillane, P., Jones, N. C., Hoffmann, S. V., Madsen, L. B., Field, D., Field, T. A. & Ziesel, J. P., 2004.

Cold electron scattering in SF₆ and C₆F₆: bound and virtual state channels

Field, D., Jones, N. C. & Ziesel, J.-P., 2004, In: Physical Review A. 69, p. 052716

The determination of absolute electron attachment cross-sections from beam scattering data

Field, D., Ziesel, J. P., Jones, N. C., Hoffmann, S. V. & Madsen, L. B., 2004.

The determination of absolute electron attachment cross-sections from beam scattering data

Field, D., Jones, N. C., Ziesel, J. P., Hoffmann, S. V. & Madsen, L. B., 2004.

Erratum: Reaction and Scattering in Cold Electron Collisions (Physics Review Letters) 90 (2003) (083201)

Ziesel, J. P., Jones, N. C., Field, D. & Madsen, L. B., 31 Dec 2003, In: Physical Review Letters. 91, 26 1, p. 2699041 1 p.

Importance of Surface Morphology in Interstellar H₂ Formation

Hornekær, L., Baurichter, A., Petrunin, V. V., Field, D. & Luntz, A., 12 Dec 2003, In: Science. 302, p. 1943

Giant Resonances in Cold Electron Scattering by CS₂

Jones, N. C., Field, D., Hoffmann, S. V., Ziesel, J. P. & Field, T. A., 2003.

H₂ excitation imaging of the Orion Molecular Cloud

Kristensen, L. K., Sherson, M. G., Field, D., Callejor, G., Lemaire, J. L., Vannier, L. & Pineau des Forêts, G., 2003, In: Astronomy & Astrophysics. 412, 727 p.

Low-energy electron-molecule scattering from CCl₄, SF₆ and C₆F₆

Field, D., Jones, N. C., Madsen, L. B., Hoffmann, S. V. & Ziesel, J. P., 2003.

New insight into shocks and star formation in Orion: First light with GrIF

Sherson, M. G., Kristensen, L. E., Clénet, Y., Field, D., Lemaire, J. L., Pineau des Forêts, G., Rouan, D. & Le Coarer, E., 2003, In: Astronomy & Astrophysics. 411, 437 p.

Reaction and Scattering in Cold Electron Collisions

Ziesel, J.-P., Jones, N. C., Field, D. & Madsen, L. B., 2003, In: Physical Review Letters. 90, p. 083201

The physical properties of the compact star forming region N88A and its neighbourhood in the SMC

Testor, G., Lemaire, J. L. & Field, D., 2003, In: Astronomy & Astrophysics. 407, p. 905-912 8 p.

Time delays in cold elastic scattering

Field, D. & Madsen, L. B., 2003, In: Journal of Chemical Physics. 118, 4, p. 1679

An undulator based spherical grating monochromator beamline optimised for low energy electron-molecule scattering experiments

Hoffmann, S. V., Lunt, S. L., Jones, N. C., Field, D. & Ziesel, J.-P., 2002, In: Review of Scientific Instruments. 73, p. 4157-4163 7 p.

Cold collisions of electrons with molecules

Field, D., Jones, N. C., Ziesel, J.-P. & Field, T. A., 2002, In: Few-Body Systems. 31, p. 191-197 7 p.

Cold collisions of electrons with Molecules: virtual state scattering in CO₂

Field, D., Lunt, S. L., Jones, N. C. & Ziesel, J.-P., 2002, *Ikke angivet*. Burgdorfer, J., Cohen, J. S., Datz, S. & Vane, C. R. (eds.). Rinton Press. Inc., p. 063608-1-4

Cold collisions of electrons with Molecules: virtual state scattering in CO₂

Field, D., Lunt, S. L., Jones, N. C., Ziesel, J.-P., Burgdorfer, J. (Editor), Cohen, J. S. (Editor), Datz, S. (Editor) & Vane, C. R. (Editor), 2002, p. 881-110.

Collisions froides electron-molecule: etats virtuels et resonances

Field, D., Ziesel, J. P., Jones, N. C. & Lunt, S. L., 2002, *French Physical Society (Atomic, Molecular and Optical Physics Division) Symposium, Bourges*. p. 063608-1-4

Collisions froides electron-molecule: etats virtuels et resonances

Field, D., Ziesel, J.-P., Jones, N. C. & Lunt, S. L., 2002.

Diamond P. J: Numerical simulations of stellar SiO maser variability. Investigation of the effect of shocks

Humphreys, E. M. L., Gray, M. D., Yates, J. A., Field, D. & Bowen, G. H., 2002, In: *Astronomy & Astrophysics*. 386, p. 256-270 15 p.

Giant Resonances in cold electron scattering by CS₂

Jones, N. C., Field, D., Ziesel, J.-P. & Field, T. A., 2002, In: *Physical Review Letters*. 89, p. 93201-93204 4 p.

Numerical simulations of stellar SiO maser variability. Investigation of the effect of shocks

Humphreys, E. M. L., Gray, M. D., Yates, J. A., Field, D., Bowen, G. H. & P.J., D., 2002, In: *Astronomy & Astrophysics*. 386, p. 256-270 15 p.

The Mars Simulation laboratory

Merrison, J. P., Field, D., Finster, K., Lomstein, B. A., Nørnberg, P., Ramsing, N. B. & Uggerhøj, E., 2002, *Proc. First European Workshop on Exo/Astro-Biology, ESA SP-496*. p. 371-373 3 p.

Very low energy encounters: cold electrons and molecules

Field, D., Jones, N. C. & Ziesel, J.-P., 2002, In: *Europhysics News*. 33/6, p. 196-197 2 p.

Vibrationally-rotationally inelastic cross sections for H+SiO collisions

Palov, A. P., Jimeno, P., Gray, M. D., Field, D. & Balint-Kurti, G. G., 2002, In: *Journal of Chemical Physics*. 116, p. 1388-1396 9 p.

Co-propagation of maser emission at 1720 and 4765 MHz

Gray, M. D., Cohen, R. J., Richards, A. M. S., Yates, J. A. & Field, D., 2001, In: *Mon. Not. R. Astr. Soc.*. 324, p. 643-647 5 p.

Experimental Evidence for a Virtual State in a Cold Collision: Electron and Carbon Dioxide

Field, D., Lunt, S. L., Jones, N. C. & Ziesel, J. P., 2001.

Experimental evidence for virtual state in a cold collision: Electrons and carbon dioxide

Field, D., Jones, N. C., Lunt, S. L. & Ziesel, J. P., 2001, In: *Physical Review A*. 64, p. 22708-22713 6 p.

H₂ infrared emission and the formation of dense structures in the Orion molecular cloud

Vännier, L., Lemaire, J. L., Field, D., Pineau des Forêts, G. P., Pijpers, F. P. & Rouan, D., 2001, In: *Astronomy & Astrophysics*. 366, p. 651-661 11 p.

Low energy electron scattering in CF₂Cl₂ and CF₃Cl

Field, D., Jones, N. C., Lunt, S. L., Ziesel, J. P. & Gulley, R. J., 2001, In: Journal of Chemical Physics. 115, 7, p. 3045-3052

Qualitative reproduction of stellar H₂O maser morphology - I. Results at a single stellar phase

Humphreys, E. M. L., Yates, J. A., Gray, M. D., Field, D. & Bowen, G. H., 2001, In: Astronomy & Astrophysics. 379, p. 501-514 14 p.

Qualitative reproduction of stellar H₂O maser morphology - I. Results at a single stellar phase

Humphreys, E. M. L., Yates, J. A., Gray, M. D., Field, D. & Bowen, G. H., 2001, In: Astronomy & Astrophysics. 379, p. 501-514 14 p.

Synchrotrons and Science: the light fantastic

Field, D., 2001, In: Contemporary Physics. 42, p. 275-283 9 p.

Synchrotrons and Science: the light fantastic

Field, D., 2001, In: Contemporary Physics. 42, p. 275-283 9 p.

The quantum world of cold electron collisions

Field, D., Lunt, S. L. & Ziesel, J. P., 2001, In: Ac.Chem.Res.. 34, p. 291-298 8 p.

The quantum world of cold electron collisions

Field, D., Lunt, S. L. & Ziesel, J. P., 2001, In: Ac.Chem.Res.. 34, p. 291-298 8 p.

Very low energy electron scattering in nitromethane, nitroethane and nitrobenzene

Lunt, S. L., Field, D., Ziesel, J. P., Jones, N. C. & Gulley, R. J., 2001, In: International Journal of Mass Spectrometry. 205, S1, p. 197-208

Very Low energy scattering from Benzene: experiment and theory

Field, D., Ziesel, J. P., Lunt, S. L., Parthasarathy, R., Suess, L., Hill, S. B., Dunning, F. B., Lucchese, R. R. & Gianturco, F. A., 2001, In: J. Phys. B: At. Mol. Opt. Phys.. 34, p. 4371-4381 11 p.

Atomic collisions involving pulsed positrons.

Merrison, J. P., Bluhme, H., Field, D., Knudsen, H., Lunt, S., Nielsen, K. A., Stahl, S. & Uggerhøj, E., 2000, In: A I P Conference Proceedings Series. 500, 1, p. 420

Electron scattering in chlorine dioxide

Field, D., Jones, N. C., Gingell, J. M., Mason, N. J., Lunt, S. L. & Ziesel, J.-P., 2000, In: Journal of Physics B: Atomic, Molecular and Optical Physics. 33, 5, p. 1039-1046 8 p.

H₂ formation in space: a negative ion route?

Field, D., 2000, In: Astronomy & Astrophysics. 362, p. 774

Hydrogen in Photodissociation Regions: NGC2023 and NGC7023

Field, D., Lemaire, J. L., Maillard, J. P., Leach, S., des Forets, G. P., Falgarone, G. P., Pijpers, F., Gerin, M., Rostas, F., Rouan, D. & Vannier, L., 2000, *Molecular Hydrogen in Space*. Combes, F. & Pineau des Forets, G. (eds.). Cambridge University Press, p. 155-160 (Cambridge Contemporary Astrophysics).

Resolved OH megamaser emission in the nuclear region of the ultraluminous infrared galaxy Markarian 273

Yates, J. A., Richards, A. M. S., Wright, M. M., Collett, J. L., Gray, M. D., Field, D. & Cohen, R. J., 2000, In: Royal Astronomical Society. Monthly Notices. 317, p. 28

Sputtering of grains in C-type shocks

May, P. W., Pineau des Forêts, G., Flower, D. P., Field, D., Allan, N. L. & Purton, J. A., 2000, In: Nom. Not. R. Astron. Soc. 318, p. 809

A comparison of 3 methods for image reconstruction of NIR Adaptive Optics images : Application to the H₂ emission in OMC1

Vannier, L., Pijpers, F. P., Field, D., Lemaire, J. L. & Rouan, D., 1999, *Astrophysics Series*. p. 72-72 1 p.

AO Disentangles Photodissociation Regions, Shocks and Dust In OMC1

Vannier, L., Lemaire, J. L., Field, D., Rouan, D., Pijpers, F. P., Pineau Des Forets, G., Gerin, M. & Falgarone, E., 1999, *ESO Conference Proceedings*. p. 687

Canada-France-Hawaii Telescope High Resolution FTS of H₂ in the reflection nebula NGC7023

Lemaire, J.-L., Field, D., Maillard, J. P., Pineau Des Forets, G., Falgarone, E., Pijpers, F. P., Gerin, M. & Rostas, F., 1999, *Astrophysics Series*. Combes, F. & Pineau des Forets, G. (eds.). p. 66-66 1 p.

CFHT high resolution Fourier transform spectroscopy of H₂ IR emission in NGC 7023

Lemaire, J. L., Field, D., Maillard, J. P., Pineau Des Forets, G., Falgarone, E., Pijpers, F., Gerin, M. & Rostas, F., 1999, In: Bulletin d'information du telescope Canada-France-Hawaii. 40, 21 p.

Do PAH's soak up electrons in the interstellar medium? New experimental results

Field, D., Lunt, S. L., Hoffmann, S. V., Ziesel, J. P. & Ossenkopf, V. (Editor), 1999, *Proceedings of the 3rd Cologne-Zermatt Symposium: The Physics and Chemistry of the Interstellar Medium*. 5 p.

Do PAHs soak up electrons in the interstellar medium? New experimental results

Field, D., Lunt, S. L., Hoffmann, S. V. & Ziesel, J. P., 1999, *Proceedings of the 3rd Cologne-Zermatt Symposium (The Physics and Chemistry of the Interstellar Medium)*. Ossenkopf, V. (ed.). 5 p.

High resolution Fourier transform spectroscopy of H₂ IR emission in NGC 7023

Lemaire, J. L., Field, D., Maillard, J. P., Des Forets, G. P., Falgarone, E., Pijpers, F. P., Gerin, M. & Rostas, F., 1999, In: *Astronomy & Astrophysics*. 349, p. 253

High Spectral Resolution Observations of H₂ vibrational Fluorescence in NGC7023

Field, D., Gerin, M., Maillard, J. L., Pineau des Foret, G., Rostas, F. & Rouan, D., 1999, In: *Astronomy & Astrophysics*. 349, p. 253-258 6 p.

High Spectral Resolution Observations of H₂ vibrational Fluorescence in NGC7023

Field, D., Gerin, M., Maillard, J. P., Lemaire, J. L., Pineau des Forêts, G., Rostas, F. & Rouan, D., 1999, In: *Astronomy & Astrophysics*. 349, p. 253-258 6 p.

Hydrogen in Shocks in Orion

Vannier, L., Rouan, D., Lemaire, J. L., Pineau Des Forets, G., Gerin, M., Falgarone, E., Pijpers, F. P. & Field, D., 1999, *Astrophysics Series*. Combes, F. & Pineau des Forets, G. (eds.). p. 71-71 1 p.

Very low energy electron scattering in C₆H₅F, C₆H₅C₁, C₆H₅Br and C₆H₅I

Lunt, S. L., Field, D., Hoffmann, S. V., R.J., G. & Ziesel, J. P., 1999, In: *Journal of Physics B: Atomic, Molecular and Optical Physics*. 32, 11, p. 2707-2717 11 p.