

ALAIN PUMIR

Publications

1. “On solitary waves running down an inclined plane”, *Journal of Fluid Mechanics* **135**, 27 (1983), (A. Pumir, P. Manneville, Y. Pomeau)
2. “Optimal merging of rolls near a plane boundary”, *Physical Review A* **29**, 366 (1984), (S. Zaleski, Y. Pomeau, A. Pumir)
3. “Intrinsic stochasticity with many degrees of freedom”, *Journal of Statistical Physics* **37**, 39 (1984), (Y. Pomeau, A. Pumir, P. Pelcé)
4. “Remarques sur le problème de la ligne de contact mobile”, *Comptes Rendus de l’Académie des Sciences (Paris)* **299**, 209 (1984), (Y. Pomeau, A. Pumir)
5. “Equations describing wrinkled flame fronts”, *Physical Review A (Rapid Communication)* **31**, 453 (1985), (A. Pumir)
6. “Statistical properties of an equation describing fluid interfaces,” *J. de Physique* **46**, 511 (1985), (A. Pumir)
7. “Quantum coherence and phase diffusion”, *Journal de Physique* **46**, 1797 (1985), (Y. Pomeau, A. Pumir)
8. “Cell shape in directional solidification in the small Péclet number limit”, *Journal of Crystal Growth* **73**, 337 (1985), (P. Pelcé, A. Pumir)
9. “Incipient singularities in the Navier-Stokes equations”, *Physical Review Letters* **55**, 1749 (1985), (E.D. Siggia, A. Pumir)
10. “Shape selection of the Saffman-Taylor finger”, *Physical Review Letters* **56**, 2036 (1986), (R. Combescot, T. Dombre, V. Hakim, Y. Pomeau, A. Pumir)
11. “Vortex dynamics and the existence of solutions to the Navier-Stokes equations”, *Physics of Fluids* **30**, 1606 (1987), (A.Pumir and E.D.Siggia)
12. “A rapidly convergent method for the inversion of separable, positive, self adjoint discrete elliptic operators in three or more dimensions”, *Journal of Computational Physics* **72**, 498 (1987), (E.D. Siggia and A.Pumir)
13. “Numerical Simulation of interacting vortex tubes”, *Physical Review Letters* **58**, 1636 (1987), (A. Pumir and R.M. Kerr)

14. “ Bubble dynamics in a Hele-Shaw cell”, *Physics of Fluids* **31**, 752 (1988), (A. Pumir and H. Aref)
15. “ Analytic theory of the Saffman-Taylor fingers”, *Physical Review* **A37**, 1270 (1988), (R. Combescot , V. Hakim, T. Dombre, Y. Pomeau and A. Pumir)
16. “ Transitoires dans l’advection-diffusion d’impuretés”, *Comptes Rendus de l’Acad. des Sciences*, **306**, 741 (1988), (Y. Pomeau, A. Pumir and W. Young)
17. “ Diffusion of tracer in convection rolls”, *Physics of Fluids* **A1**, 462 (1989), (W. Young, A. Pumir and Y. Pomeau)
18. “ Nonlinear evolution of turbulent fluctuations away from a boundary”, *Nonlinearity* **2**, 45 (1989), (A. Pumir and Y. Pomeau)
19. “ Simulations of incipient singularities in the 3-D Euler equations”, *Physica* **D37**, 539, (1989), (A. Pumir and E. Siggia)
20. “Nonlinear theory of traveling wave convection in binary mixtures”, *J. de Physique* **50**, 3089 (1989), (D. Bensimon, A. Pumir and B. Shraiman)
21. “Collapsing solutions in the 3D Euler equations”, *Physics of Fluids*, **A2**, 220 (1990) (A. Pumir and E. Siggia)
22. “Stability of charged membranes ”, *J. de Physique* **51**, 689 (1990) (D. Bensimon, F. David, S. Leibler and A. Pumir)
23. “The Eckhaus instability for traveling waves”, *Physica* **D55**, 269 (1992) (B. Janiaud, A. Pumir, D. Bensimon, V. Croquette, H. Richter and L. Kramer)
24. “Exponential tails and random advection”, *Physical Review Letters* **66**, 2984 (1991) (A. Pumir, B. Shraiman, E. Siggia)
25. “Development of singular solutions to the axisymmetric Euler equations” *Physics of Fluids* **A4**, 1472 (1992) (A. Pumir and E. Siggia)
26. “Spatiotemporal chaos in the one-dimensional complex Ginzburg- Landau equation”, *Physica* **D57** (1992) (B. Shraiman, A. Pumir, W. van Saarloos, P.C. Hohenberg, H. Chate and M. Holen)
27. “On the interface dynamics of porous media convection”, *Physica* **D57**, 311 (1992) (T. Dombre, A. Pumir and E. Siggia)

28. “Kelvin’s theorem and vortex morphology”, *Physical Review* **A45**, 5351 (1992) (Rapid communications) (A. Pumir, B. Shraiman and E. Siggia)
29. “Finite time singularities in the axisymmetric 3D Euler Equations”, *Physical Review Letters* **68**, 1511 (1992) (A. Pumir and E. Siggia)
30. “Simple models of non-Gaussian statistics for a turbulently advected passive scalar”, *Physical Review* **E 47**, 202 (1993) (M. Holzer and A. Pumir)
31. “A numerical study of pressure fluctuations in three-dimensional, incompressible, homogeneous isotropic turbulence”, *Physics of Fluids* **6**, 2071 (1994).
32. “A numerical study of the mixing of a passive scalar three dimensions in the presence of a scalar gradient”, *Physics of Fluids* **6**, 2118 (1994).
33. “Control of rotating waves in cardiac muscle : analysis of the effect of an electric field”, *Proc. R. Soc. London* **B257**, 129-134 (1994). (A. Pumir, F. Plaza and V. Krinsky)
34. “Effect of an externally applied electric field on impulse propagation in cardiac muscle”, *Chaos* **4**, 547 (1994). (A. Pumir, F. Plaza and V. Krinsky)
35. “Small scale properties of scalar and velocity differences in three-dimensional turbulence”, *Physics of Fluids* **6**, 3974 (1994).
36. “How does an electric field defibrillate cardiac muscle ?” *Physica* **D91**, 205 (1996). (A. Pumir and V. Krinsky).
37. “Nucleation far from equilibrium”, *Journal de Physique II* **5**, 1533 (1995). (A. Pumir)
38. “Persistent small scale anisotropy in homogeneous shear flows” *Physical Review Letters* **75**, 3114 (1995) (A. Pumir and B. I. Shraiman).
39. “Anomalous scaling of a passive scalar in the presence of a mean gradient”, *Europh. Letters* **34**, 25 (1996) (A. Pumir).
40. “Turbulence in homogeneous shear flows”, *Phys. Fluids* **8**, 3112 (1996) (A. Pumir).
41. “Two biophysical mechanisms of defibrillation of cardiac tissue”, *J. Theoretical Biology* , **185**, 189 (1997) (A. Pumir and V. Krinsky).
42. “Heat transport in a liquid layer locally heated on its free surface”, *Phys. Rev.* **E 54**, R4528 (1996) (Rapid Communication) . (A. Pumir and L. Blumenfeld).

43. “Wave dynamics in the far wake of a cylinder”, *Phys. Fluids* **9**, 1969 (1997) (M. Hooghe and A. Pumir).
44. “On the Kraichnan model of passive scalar advection near the Batchelor limit”, *Phys. Rev.* **E55**, 1263 (1997) (A. Pumir, B. I. Shraiman and E. D. Siggia).
45. “Determination of the three-point correlation of a passive scalar in the presence of a mean gradient”, *Europh. Lett* **37**, 529 (1997).
46. “De-excitation of cardiac cells”, *Biophysical Journal* **74**, 2850 (1998) (A. Pumir, G. Romey and V. Krinsky).
47. “Predictions of small-scale statistics of the passive scalar turbulent mixing”, *Physical Review Letters* **79**, 4577 (1997) (L. Danaila, F. Anselmet, P. LeGal, J. Dusek, C. Brun and A. Pumir).
48. “Models of defibrillation of cardiac tissue”, *Chaos* **8**, 188 (1998) (special issue on Cardiac fibrillation) (V. Krinsky and A. Pumir).
49. “Structure of the three-point correlation function of a passive scalar in the presence of a mean gradient”, *Physical Review* **E 57**, 2914 (1998) (A. Pumir).
50. “Structure and multipoint correlation functions for passive scalar advection : predictions and experiments”, *Phys. Rev. Lett.* **81**, 4373 (1998) (L. Mydlarski, A. Pumir, B. Shraiman, E. Siggia and Z. Warhaft).
51. “Lagrangian tetrad dynamics and the phenomenology of turbulence”, *Phys. Fluids* **11**, 2394 (1999) (M. Chertkov, A. Pumir and B. Shraiman).
52. “Detonation type waves in phase (chemical) transformation processes in condensed matter”, *European Journal of Physics* **B 10** 379-383 (1999) (A. Pumir and V. Barelko).
53. “Planar isotropy of passive scalar turbulent mixing with a mean perpendicular gradient”, *Phys. Rev.* **E 60**, 1691 (1999) (L. Danaila, J. Dusek, P. Le Gal, F. Anselmet, C. Brun and A. Pumir).
54. “Unpinning of a rotating wave in cardiac muscle by an external electric field”, *Journal of Theoretical Biology* **199**, 311 (1999) (A. Pumir and V. Krinsky).
55. “Propagation and ignition of fast gasless detonation waves of phase or chemical transformation in condensed matter”, *Eur. Phys. J.* **B 16**, 137 (2000) (A. Pumir and V. Barelko).

56. “Persistence of zero velocity fronts in reaction diffusion systems”, *Chaos* **10**, 731 (2000). (L. Kramer, G. Gottwald, V. I. Krinsky, A. Pumir and V. Barelko).
57. “Statistical geometry of Lagrangian dispersion in turbulence”, *Phys. Rev. Lett.* **85**, 5324 (2000). (A. Pumir, B. Shraiman and M. Chertkov).
58. “Cold ignition of combustion-like waves of cryo-chemical reactions in solids”, *European Physical Journal* **B22**, 71 (2001) (A. Pumir, V. Barelko).
59. “Statistics of Fourier modes in turbulence”, *Phys. Rev E* **63**, 056313 (2001)(C. Brun and A. Pumir).
60. “Spiral wave drift induced by stimulating wave trains”, *Chaos* **11**, 487 (2001) (G. Gottwald, A. Pumir and V. Krinsky).
61. “The Lagrangian View of Energy Transfer in Turbulent Flow”, *Europh. Lett.* **56**, 379 (2001) (A. Pumir, B. Shraiman and M. Chertkov).
62. “Evolution of triangles in a 2-dimensional turbulent flow”, *Phys. Rev E* **64**, 05603 (2001) (P. Castiglione and A. Pumir)
63. “Stability of active systems with a spatially periodic activity : analysis of a simple model and application to the boiling crisis”, *Chaos* **12**, 610 (2002) (A. Pumir and V. Barelko).
64. “The use of Faraday instability to produce defined topological organization in cultures of mammalian cells”, *Intern. J. of Bifurcation and Chaos*, **12**, 2009-2019 (S. Takagi, C. Frelin, V. Krinsky and A. Pumir)
65. “Lagrangian Particle Approach to Large Eddy Simulations of Hydrodynamic Turbulence”, *Journal of Statistical Physics* **113**, 693 (2003) (A. Pumir and B. Shraiman).
66. “Mechanism of standing wave patterns in cardiac muscle”, *Physical Review Letters* **90**, 124101 (2003) (S. Takagi, A. Pumir, L. Kramer and V. Krinsky).
67. “Kinematic simulation of multi point turbulent dispersion”, to appear in *Phys. Rev. E* **68**, 026313 (2003) (M. A. I. Khan, A. Pumir and J. C. Vassilicos).
68. “Behavior of ectopic surface : effects of beta-adrenergic stimulation and uncoupling”, *Am. J. Physiology Heart and Circulation Physiology* **285**, H2531-H2542 (2003) (A. Arutunyan, A. Pumir, V. Krinsky, L. Swift and N. Sarvazyan).

69. “A physical approach to remove anatomical reentries : a bidomain study”, *Journal Theoretical Biology* **230**, 489 (2004) (S. Takagi, A. Pumir, D. Pazo, I. Efimov, V. Nicholski and V. Krinsky).
70. “Intermittent distribution of heavy particles in a turbulent flow”, *Physics of Fluids* **16**, L47-L50 (2004) (G. Falkovich and A. Pumir).
71. “Unpinning and removal of a rotating wave in cardiac muscle”, *Physical Review Letters*, **93**, 058101 (2004) (S. Takagi, A. Pumir, D. Pazó, I. Efimov, V. Nikolski, V. Krinsky).
72. “Pinning force in active media”, *Physical Review Letters*, **93**, 168303 (2004) (D. Pazó, L. Kramer, A. Pumir, S. Kanani, I. Efimov, V. Krinsky),
73. “Genesis of ectopic waves : role of coupling, automaticity and heterogeneity”. *Biophysical Journal* **89**, 2332 (2005) (A. Pumir, A. Arutunyan, V. Krinsky and N. Sarvazyan)
74. “Scale dependence of the coarse-grained velocity derivative tensor structure in turbulence”, *Phys. Rev. E* **72**, 056318 (2005) (A. Naso and A. Pumir).
75. “Energy flux fluctuations in a finite volume of turbulent flow” *Phys. Rev. E* **73**, 026308 (2006) (M. Bandi, W. I. Goldburg, J. R. Cressman and A. Pumir).
76. “Scale dependence of the coarse-grained velocity derivative tensor: influence of large scale shear on small-scale turbulence”, *Journal of Turbulence* **7**, N41 (2006). (A. Naso, M. Chertkov and A. Pumir).
77. “Sling effect in collisions of water droplets in turbulent clouds”, *J. Atm. Science* **64**, 4497 (2007). (G. Falkovich and A. Pumir).
78. “Control of the boiling crisis : analysis of a model system”, *European Physical Journal*, **60**, 1 (2007) (A. Pumir, V. V. Barelko and E. V. Buryak).
79. “Wave emission from heterogeneities opens a way to controlling chaos in the heart”, *Phys. Rev. Lett.* **99**, 208101 (2007) (A. Pumir, V. Nikolski, M. Hoerning, K. Agladze, K. Yoshikawa, R. Gilmour, E. Bodenschatz et V. Krinsky).
80. “Statistical geometry in homogeneous and isotropic turbulence”, *Journal of Turbulence* **8**, N39 (2007). (A. Naso, A. Pumir and M. Chertkov).
81. “Genetically engineered cardiac pacemaker : stem cells transfected with HCN2 genes and myocytes - A model”, *Phys. Lett. A* **372**, 141-147 (2008). (S. Kanani, A. Pumir and V. Krinsky).

82. “Intermittent particle distribution in synthetic free-surface turbulent flows”, *Phys. Rev.* **E 77**, 066304 (2008). (L. Ducasse and A. Pumir).
83. “Systems analysis of the single photon response in invertebrate photoreceptors”, *Proceedings of the National Academy of Sciences of the United States of America* **105**, 54 (2008) (A. Pumir, J. Graves, R. Ranganathan and B. Shraiman).
84. “Travelling waves of fast cryo-chemical transformations in solids (non-Arrhenius chemistry of the cold universe)” *Mathematical Modelling of Natural Phenomena*, **3**, 50 (2008) (V. Barelko, N. Bessonov, G. Kichigina, D. Kiryukhin, A. Pumir and V. Volpert).
85. “Termination of atrial fibrillation using pulsed low-energy far-field stimulation” *Circulation* **120**, 467 (2009) (F. Fenton, S. Luther, E. Cherry, N. Otani, V. Krinsky, A. Pumir, E. Bodenschatz and R. Gilmour).
86. “Power-law distributions of particle concentration in free-surface flows”, *Phys. Rev.* **E80**, 066301 (2009) (J. Larkin, M. Bandi, A. Pumir and W. Goldberg).
87. “Inertial particles collision in turbulent syntetic flows : quantifying the sling effect”, *Phys. Rev.* **E80**, 066312 (2009). (L. Ducasse and A. Pumir).
88. “Wave-train-induced termination of weakly anchored vortices in excitable media”, *Phys. Rev.* **E 81**, 010901(R) Rapid Communication (2010). (A. Pumir, S. Sinha, S. Sridhar, M. Argentina, M. Hörning, S. Filippi, C. Cherubini, S. Luther and V. Krinsky).

Conferences proceedings and other contributions :

- C1. “ The problem of intrinsic stochasticity with many degrees of freedom and its application to turbulence”, *Proceedings of the meeting ' Combustion and Non-Linear Phenomena'*, Les Houches, Mars 1984. Published by 'Les Editions de Physique', P. Clavin, B. Laroutourou and P. Pelcé Editors
- C2. “ Vortex Dynamics and Singularities in the Fluid Equations”, *Proceedings of the Conference on non linear dynamics and patterns held in Los Alamos, Physica* **23D**, 72 (1986), (A.Pumir)

- C3. “ Incipient Singularities in the fluid equations”, Proc. of the Mathematical Science Institute/Army Meeting, Cornell University, May 1986, (A. Pumir and E.D. Siggia)
- C4. “ Numerical simulations of interacting vortex tubes”, Nucl. Physics B **2** (Proc. Suppl.), 605 (1987), (R. Kerr and A. Pumir)
- C5. “ Diffusive transport in laminar flows”, Published in ‘Disorder and Mixing’, Kluwer Academic Publishers, E. Guyon, J.P. Nadal and Y. Pomeau Editors (p. 143). (A. Pumir and B. Shraiman)
- C6. “ Nonlinear analysis of Traveling waves in binary convection”, in the Proceedings of the Summer school in Cargèse, ‘New trends in nonlinear Dynamics and pattern forming phenomena; the geometry of non equilibrium’ , P. Couillet and P. Huerre editors (D. Bensimon and A. Pumir)
- C7. “ Simulation of incipient singularities in the 3D Euler equations”, in the Proceedings of the Cargèse summer school, ‘New trends in nonlinear Dynamics and pattern forming phenomena; the geometry of non equilibrium’ , P. Couillet and P. Huerre editeurs, (A. Pumir and E. Siggia)
- C8. “ Collapsing singularities in the 3D Euler equations”, in ‘Topological Fluid Mechanics’, Cambridge University Press, H.K. Moffatt and A. Tsinober Editors (p.496). Proceedings of the IUTAM conference ‘Topological Fluid Mechanics’, held in Cambridge (England), August 1989. (A. Pumir and E. Siggia)
- C9. “ Boundary layer analysis of traveling waves in binary convection”, in ‘Nonlinear evolution of spatio-temporal structures in dissipative continuous systems’, Plenum Press, F. Busse and L. Kramer Editors (p 101-107). Proceedings of the NATO Advanced Science Institute , Streitberg (F.R.G), September 1989, (D. Bensimon, A. Pumir and B. Shraiman)
- C10. “ Collapsing solutions in the 3D Euler equations”, in ‘Nonlinear evolution of spatio-temporal structures in dissipative continuous structures’, Plenum Press, F. Busse and L. Kramer Editors (p 509-513). Proceedings of the NATO Advanced Science Institute , Streitberg (F.R.G), September 1989, (A. Pumir and E. Siggia)
- C11. “ Collapsing solutions in inviscid hydrodynamics ”, Proceedings of the conference ‘Nonlinear and turbulent processes in Physics’, Kiev (October 1989), organised by V. Zakharov, (A. Pumir and E. Siggia)
- C12. “ Stretching of vortex lines ”, Published in the proceedings of the NATO ARW held in Rota (Spain), September 1990, (A. Pumir and E. Siggia)

- C13. “Phase vs. Defect turbulence in the 1d complex Ginzburg-Landau equations”. Published in the Proceedings of the Taylor Couette meeting, held in Columbus, Ohio (May 1991) (A. Pumir, B. Shraiman, W. van Saarloos, P. Hohenberg, H. Chate and M. Holen)
- C14. “Singular solutions to the 3d axisymmetric incompressible Euler equations”, to be published in the Proceedings of the conference ‘New Trends in nonlinear dynamics’, Estella, Spain (Sept. 1991), organized by C. Perez-Garcia. (*Physica D* **61**, 240 (1993)) (A. Pumir and E. Siggia)
- C15. “Blow up in axisymmetric Euler flows”, Proceedings of the conference ‘Topological aspects of the Dynamics of Fluids and Plasmas’, Santa Barbara California (November 1991), organised by H.K. Moffatt, M. Tabor and G. Zaslavsky. (A. Pumir and E. Siggia)
- C16. “Singularities in 3d axisymmetric Euler flows and vortex morphology ” Proceedings of the Les Houches winter school on turbulence, January 1992, organized by C. Basdevant, R. Benzi and S. Ciliberto in Les Houches, France.
- C17. “Singularities and structures in the 3d Euler equations ”, Proceedings of the conference ‘Singularities in fluid, plasma and optics’, Heraklion, Greece, July 1992, organised by R. Caflisch (A. Pumir and E. Siggia)
- C18. “Formation and interaction of intense vortex sheets in 3-dimensional incompressible hydrodynamics”, *Meccanica* **29**, 343 (1994) (proceedings of the conference ‘Vortex dynamics’, held in Cortona, Italy, July 1993).
- C19. “Singularities (and turbulence)”, in “Turbulence : a tentative dictionary”, P. Tabeling and O. Cardoso, Editors, Plenum Press, NY (1994) (proceedings of a workshop on turbulence, held in Cargese in July 1993).
- C20. “Turbulent Mixing of a scalar in 3-dimensions”, p. 423, in “Advances in Turbulence V” (Proceedings of the 5th European Conference on turbulence, held in Sienna, Italy, July 1994), Kluwer Academic Publishers, edited by R. Benzi, 1995.
- C21. “Turbulent mixing : small-scale properties”, p. 45 in “Small-Scale Structures in Three-Dimensional Hydrodynamic and Magnetohydrodynamic Turbulence”, (Proceedings of a workshop held in Nice, Jan. 1995), edited by M. Meneguzzi, A. Pouquet and P.-L. Sulem, 1995.
- C22. “Coupled thermocapillary and buoyancy effect in a liquid layer locally heated in its free surface”, Proceedings of the ASME Conference, San Diego July 1996.

- C23. “Turbulent transport in a liquid layer heated on its free surface”, Proceedings of the Monte-Verita conference on turbulence, ”Trends in Mathematics”, p. 347, Birkhäuser Verlag, Basel (1999). (A. Pumir and L. Blumenfeld)
- C24. “Small scale statistics of the passive scalar turbulent mixing: a test of the influence of the large-scale properties”, p.557, in ”Advances in Turbulence VII”, (Proceedings of the 7th European Conference on turbulence, held in Nice, France, July 1998), Kluwer Academic Publishers, edited by U. Frisch, 1998. (L. Danaïla, F. Anselmet, P. Le Gal, C. Brun, A. Pumir, F. Plaza and J. F. Pinton).
- C25. “On the three-point correlation function of a passive scalar mixed by a turbulent flow”, p.577, in ”Advances in Turbulence VII”, (Proceedings of the 7th European Conference on turbulence, held in Nice, France, July 1998), Kluwer Academic Publishers, edited by U. Frisch, 1998. (A. Pumir).
- C26. “Turbulent Mixing of a Passive Scalar”, *Physica A* **263**, 91 (1999). Proceedings of ”StatPhys 20”, Paris (June 1998). (A. Pumir, B. Shraïman and E. D. Siggia).
- C27. “Statistical Geometry and Lagrangian Dynamics”, to appear in the proceedings of the ”Intermittency” meeting, held at the Isaac Newton Institute for Mathematical Sciences, to be published by Cambridge University Press, Cambridge, UK (M. Chertkov, A. Pumir and B. Shraïman).
- C28. “Geometry and statistics in Lagrangian dispersion”, in “Advances in Turbulence VIII”, p. 621, Proceedings of ETC8 (the 8th European Turbulence Conference), (June 2000) (A. Pumir, M. Chertkov and B. Shraïman).
- C29. “Co-existence of stable states in reaction diffusion systems”, in the proceedings of “Rencontre du Non-Linéaire”, Institut Henri Poincaré, Paris 2000, Paris Onze Edition, 2000, p.154-158 (L. Kramer, G. Gottwald, V. Krinsky, A. Pumir, V. Barelko).
- C30. V. V. Barelko, I. M. Barkalov, D. P. Kiryukhin and A. Pumir, “Autowave modes of polymerization and other reactions in solid frozen matrixes near the absolute zero and their role in mechanisms of fast chemical transformations of substance in universe”, Proceedings of the meeting on ”Nonlinear Dynamics in Polymer Science and Related Fields” (held in Moscow, October 1999) published in *Macromolecular Symposia* **160**, 21-26 (2000).
- C31. Energy transfer in turbulent flows: the Lagrangian view. In *Advances in Turbulence IX* (ed. I.P. Castro, P.E. Hancock and T.G. Thomas), p. 617-620. CIMNE, Barcelona. (Proceedings of the 9th European Turbulence Conference, July 2002. (Pumir, A., Shraïman, B.I. and Chertkov, M.)

- C32. Geometry of multipoint turbulent dispersion. In *Advances in Turbulence IX* (ed. I.P. Castro, P.E. Hancock and T.G. Thomas), p. 621-624. CIMNE, Barcelona. (Proceedings of the 9th European Turbulence Conference, July 2002. (M.A.I. Khan, A. Pumir and J.C. Vassilicos).
- C33. "Cold" Ignition of Cryo-polymerization and other reactions in solids, D. Kiryukhin, I. Barkalov, V. Barelko and A. Pumir, in 'Nonlinear Dynamics in Polymeric Systems', p.160-168, ACS Symposium Series No. 869; Pojman, J. A.; Tran-Cong-Miyata, Q. Eds.; American Chemical Society: Washington, DC, 2003
- C34 "Turbulence and stochastic phenomena" (A. Celani, A. Mazzino and A. Pumir), pp.173-186 in "The Kolmogorov Legacy in Physics", edited by R. Livi and A. Vulpiani, Lectures Notes in Physics, Springer (2003).
- C35 "Semiclassical approach of the "tetrad model" of turbulence" (A. Naso and A. Pumir). pp.173-182, in 'Non Smooth mechanics and analysis', Edited by P. Alart, O. Maissenueve and R. T. Rockafellar, Springer Verlag, 2006.
- C36 "Cardiac muscle models", V. Krinsky, A. Pumir and I. Efimov, in *Encyclopedia for Nonlinear Science*, ed. Alwyn Scott, Routledge, New York and London (2004).
- C37 "Geometry and statistics in homogeneous isotropic turbulence" (A. Naso and A. Pumir), Proceedings of the Euromech Colloquium 477 on 'Particle-laden flows : from geophysical to Kolmogorov scales', held in Enschede (June 2006).