

Publication de l'équipe de Systèmes Dynamiques
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Bibliographie

- [1] Argentina, M., Coulet, P., J.-M. Gilli, Monticelli, M., and Rousseaux, G. Robert hooke's three-body problem. *Int. J. Bif. Chaos*, 19 :3435, 2009.
- [2] M.A Fardin, B. Lasne, O. Cardoso, G. Gregoire, Argentina, M., J. P. Decruppe, and S. Lerouge. Taylor-like vortices in shear-banding flow of giant micelles. *Phys. Rev. Lett.*, 103 :028302, 2009.
- [3] Rojas, N.O., Argentina, M., E. A. Cerda, and E. L. Tirapegui. Nonlinear faraday waves at low reynolds numbers. *J. Mol. Liqu.*, 147 :166, 2009.
- [4] P. Sauvage, Argentina, M., J. Drappier, T. Senden, J. Simeon, and J.-M. Dimeglio. A locomotion model for caenorhabditis elegans. *J. Exp. Biol*, 2009.
- [5] X. Noblin, Rojas, N.O., Westbrook J., Argentina, M., and J. Dumais. Biomechanics of fern spores discharge : the sporangium opening. In *6th Plant Biomechanics Conference*, november 2009.
- [6] Rojas, N.O., Argentina, M., E. A. Cerda, and E. L. Tirapegui. Ondes non linéaires dans l'expérience de faraday. In *Rencontre du Nonlinéaire*, 2009.
- [7] S. Lerouge, M.A Fardin, Argentina, M., G. Gregoire, and O. Cardoso. Interface dynamics in shear-banding flow of giant micelles. *Soft Matter*, 4 :1808, 2008.
- [8] M.A Fardin, B. Lasne, O. Cardoso, G. Gregoire, Argentina, M., J. P. Decruppe, and S Lerouge. Taylor-like vortices in the shear-banding flow of giant micelles,. In *AIP conference proceedings*, volume 1027, page 192, 2008.
- [9] Argentina, M., J. Skotheim, and L Mahadevan. Settling and swimming of flexible fluid-lubricated foils. *Phys. Rev. Lett.*, 99 :224503, 2007.
- [10] Argentina, M., Coulet, P., J.-M. Gilli, Monticelli, M., and Rousseaux, G. Modern chaos in the ancient experiments of robert hooke on the inverted cone. *Proc. Roy. Soc.*, 453 :1259–1269, 2007.
- [11] M. Argentina. Some examples of animal locomotion. In *Rencontre du Nonlinéaire de Peyresq*, 2007.
- [12] S. Lerouge, Argentina, M., and J. P. Decruppe. Interface instability in shear-banding flow. *Phys. Rev. Lett.*, 96 :088301, 2006.

- [13] J. Barré, A. Olivetti, and Y. Yamaguchi. Dynamics of perturbations around inhomogeneous backgrounds in the HMF model. *J. Stat.Mech.*, P08002, 2010.
- [14] A. Olivetti, J. Barré, B. Marcos, F. Bouchet, and R. Kaiser. Breathing mode for systems of interacting particles in the canonical and microcanonical descriptions. submitted in 2010.
- [15] J. Barré, M. Hauray, and P.-E. Jabin. Stability of trajectories for n-particles dynamics with singular potential. *J. Stat. Mech.*, P07005, 2010.
- [16] J. Barré. Hierarchical models of rigidity percolation. *Phys. Rev. E*, 80(6) :061108–+, December 2009.
- [17] A. Olivetti, J. Barré, B. Marcos, F. Bouchet, and R. Kaiser. Breathing Mode for Systems of Interacting Particles. *Physical Review Letters*, 103(22) :224301–+, November 2009.
- [18] J. Barré, A. Ciani, D. Fanelli, F. Bagnoli, and S. Ruffo. Finite size effects for the Ising model on random graphs with varying dilution. *Physica A Statistical Mechanics and its Applications*, 388 :3413–3425, September 2009.
- [19] Barré, Julien and Yoshiyuki Y. Yamaguchi. Small traveling clusters in attractive and repulsive hamiltonian mean-field models. *Phys. Rev. E*, 79(3) :036208, Mar 2009.
- [20] Barré, J., Bishop, A., Lookman, T., and Saxena, A. *Random bond models of the intermediate phase in network forming glasses, IN Rigidity and Boolchand intermediate phases in nanomaterials*. Eds. M. Micoulaut, M. Popescu, INOE Publishing House, 2009.
- [21] Barré, J. and Jabin, P. E. Free transport limit for N -particles dynamics with singular and short range potential. *J. Stat. Phys.*, 131(6) :1085–1101, 2008.
- [22] F. Bouchet, J. Barré, and A. Venaille. Equilibrium and out of equilibrium phase transitions in systems with long range interactions and in 2D flows. In A. Campa, A. Giansanti, G. Morigi, F. S. Labini, editor, *Dynamics and Thermodynamics of Systems with Long Range Interactions : Theory and Experiments*, volume 970 of *American Institute of Physics Conference Series*, pages 117–152, January 2008.
- [23] J. Barré and B. Gonçalves. Ensemble inequivalence in random graphs. *Physica A Statistical Mechanics and its Applications*, 386 :212–218, December 2007.
- [24] J. Barré. Retrieving information from a noisy 'knowledge network'. *Journal of Statistical Mechanics : Theory and Experiment*, 8 :15–+, August 2007.
- [25] A. Antoniazzi, D. Fanelli, J. Barré, P.-H. Chavanis, T. Dauxois, and S. Ruffo. Maximum entropy principle explains quasistationary states in

- systems with long-range interactions : The example of the Hamiltonian mean-field model. *Phys. Rev. E*, 75(1) :011112–+, January 2007.
- [26] O. Rivoire and J. Barré. Exactly Solvable Models of Adaptive Networks. *Physical Review Letters*, 97(14) :148701–+, October 2006.
- [27] Barré, J., A. R. Bishop, T. Lookman, and A. Saxena. Oscillating elastic defects : Competition and frustration. *Phys. Rev. B*, 74(2) :024104, Jul 2006.
- [28] G. L. Celardo, J. Barré, F. Borgonovi, and S. Ruffo. Time scale for magnetic reversal and the topological nonconnectivity threshold. *Phys. Rev. E*, 73(1) :011108, 2006.
- [29] Antoniazzi, A., Barré, J., Dauxois, T., De Ninno, G., Fanelli, D., and Ruffo, S. Free electron laser as a paradigmatic example of systems with long-range interactions. Berlin FEL Conference, 2006.
- [30] F. Bouchet et J. Barré. Statistical mechanics of systems with long range interactions. In *Journal of Physics : Conference Series*, volume 31, page 18. 2006.
- [31] J. Barré et F. Bouchet. Statistical mechanics and long range interactions. In *Comptes Rendus de Physique*, volume 7, page 414. 2006.
- [32] C.Amatore, S.Arbault, Y.Bouret, F.LeMaitre, and M.Guille. Prediction of local ph variations during amperometric monitoring of vesicular exocytotic events at chromaffin cells. *Chem. Phys. Chem*, 2010. in press.
- [33] D.C.M.Ferreira, I.Tapsoba, S.Arbault, Y.Bouret, M.S.A.Moreira, A.VenturaPinto, M.O.F.Goulart, and C.Amatore. Ex vivo activities of β -lapachone and α -lapachone on macrophages : a quantitative pharmacological analysis based on amperometric monitoring of oxidative bursts by single cells. *Chem. Bio. Chem.*, 10 :528–538, 2009.
- [34] C.Amatore, S.Arbault, Y.Bouret, F.LeMaitre, and M.Guille. Invariance of exocytotic events detected by amperometry as a function of the carbon fiber microelectrode diameter. *Anal. Chem.*, 81 :3087–3093, 2009.
- [35] Y.Bouret. *conviv* interface and layout software. In *Mathematical Methods for Ab Initio Quantum Chemistry*, 2009.
- [36] C.Amatore, Y.Bouret, M.Guille, and F.LeMaitre. Analyse théorique de l’effet de confinement sur le ph local de l’interface entre une électrode et une cellule. In *Journées d’Electrochimie 2007*, 2007.
- [37] C. Amatore, S.Arbault, Y.Bouret, B.Cauli, M.Guille, A.Rancillac, and J.Rossier. Nitric oxide release during evoked neuronal activity in cerebellum slices : Detection with platinized carbon-fiber microelectrodes. *Chem. Phys. Chem.*, 7 :181–187, 2006.
- [38] L.G.Vidiani. Les motifs des pelages d’animaux. *CultureMATH*, octobre 2006.

- [39] C.Amatore, S.Arbault, Y.Bouret, Manon Guille, F.Lemaitre, and Y.Verchier. Regulation of exocytosis in chromaffin cells by trans-insertion of lysophosphatidylcholine and arachidonic acid into the outer leaflet of the cell membrane. *Chem. Bio. Chem.*, 7 :1998–2003, 2006.
- [40] Patrick Cassam-Chenai and Vitaly Rassolov. The electronic mean field configuration interaction method : Iii - the p-orthogonality constraint. *Chemical Physics Letters*, 487(1-3) :147 – 152, 2010.
- [41] Cassam-Chenai, Patrick and Patras, Frédéric. Symmetry-adapted polynomial basis for global potential energy surfaces-applications to xy_4 molecules. *J. Math. Chem.*, 44(4) :938–966, 2008.
- [42] Cassam-Chenai, Patrick, Chiaramello, Jean-Marc, and Paul G. Mezey. Generalisation of a property of hamiltonians depending linearly upon a parameter : Application to a model of inert gas matrix effect on vibrational spectra. *J. Math. Chem.*, 44(4) :981–987, 2008.
- [43] Cassam-Chenai, Patrick . Geometric measure of indistinguishability for groups of identical particles. *Phys. Rev. A*, 77(3) :032103, Mar 2008.
- [44] Patrick Cassam-Chenai, Yohann Scribano, and Jacques Liévin. Influence of kinetic coupling in rectilinear coordinates on the vibrational spectrum of fluoroform. *Chemical Physics Letters*, 466(1-3) :16 – 20, 2008.
- [45] Didier Begue, Neil Gohaud, Claude Pouchan, Patrick Cassam-Chenai, and Jacques Lievin. A comparison of two methods for selecting vibrational configuration interaction spaces on a heptatomic system : Ethylene oxide. *The Journal of Chemical Physics*, 127(16) :164115–164115–164124, 2007.
- [46] Patrick Cassam-Chenai and Giovanni Granucci. The electronic mean field configuration interaction method : Ii - improving guess geminals. *Chemical Physics Letters*, 450(1-3) :151 – 155, 2007.
- [47] Cassam-Chenai, P. On non-adiabatic potential energy surfaces. *Chemical Physics Letters*, 420(4-6) :354 – 357, 2006.
- [48] Patrick Cassam-Chenai and Jacques Liévin. The vmfci method : A flexible tool for solving the molecular vibration problem. *Journal of Computational Chemistry*, 27(5) :627 – 640, 2006.
- [49] Patrick Cassam-Chenai. The electronic mean-field configuration interaction method. i. theory and integral formulas. *The Journal of Chemical Physics*, 124(19) :194109–194123, 2006.
- [50] Cassam-Chenai, Patrick. Lecture series on computer and computational sciences. In George (ed.) et al. Maroulis, editor, *In the frontiers of computational science*, volume 3, chapter Generalized Hopf algebra fundamental formula for non-orthogonal group functions, pages 18–26. VSP (Utrecht), 2006. Lectures presented in the international conference of computational methods in science and engineering (ICCMSE 2005), Corinth, Greece, October 21–26, 2005.

- [51] B. Cessac. A view of neural networks as dynamical systems. *International Journal of Bifurcations and Chaos*, *In press*, 2010.
- [52] B. Cessac, H. Paugam-Moisy, and T. Viéville. Overview of facts and issues about neural coding by spikes. *J. Physiol. Paris*, 104(1-2) :5–18, 2010.
- [53] B. Cessac. A discrete time neural network model with spiking neurons ii. dynamics with noise. *J.Math. Biol.*, *accepted*, 2010.
- [54] J.C. Vasquez, B. Cessac, and T. Vieville. Entropy-based parametric estimation of spike train statistics. *Journal of Computational Neuroscience*, 2010. *accepted*.
- [55] J. Touboul, B. Ermentrout, O. Faugeras, and B. Cessac. Stochastic firing rate models. *Methods*, 2010. *submitted*.
- [56] Bruno Cessac, Juan-Carlos Vasquez, Hassan Nasser, Horacio Rostro-Gonzalez, Thierry Viéville, and Adrian Palacios. Parametric estimation of spike train statistics by gibbs distributions : An application to bio-inspired and experimental data. 2010. *submitted to NeuroComp2010*.
- [57] Bruno Cessac, Hassan Nasser, and Juan-Carlos Vasquez. Spike trains statistics in integrate and fire models : exact results. 2010. *submitted to NeuroComp2010*.
- [58] B. Cessac, H. Rostro-Gonzalez, J.C. Vasquez, and T. Viéville. How gibbs distribution may naturally arise from synaptic adaptation mechanisms : a model based argumentation. *J. Stat. Phys*, 136(3) :565–602, August 2009.
- [59] O. Faugeras, J. Touboul, and B. Cessac. A constructive mean field analysis of multi population neural networks with random synaptic weights and stochastic inputs. *Frontiers in Computational Neuroscience*, 3(1), 2009.
- [60] H. Rostro-Gonzalez, B. Cessac, J.-C. Vasquez, and Thierry Viéville. Back-engineering of spiking neural networks parameters. In *Computational Neurosciences meeting (CNS)*, 2009.
- [61] Thierry Viéville and B. Cessac. Parametric estimation of spike train statistics. In *Computational Neurosciences meeting (CNS)*, 2009.
- [62] J.-C. Vasquez, Bruno Cessac, H. Rostro-Gonzalez, and T. Viéville. How gibbs distributions may naturally arise from synaptic adaptation mechanism. In *Computational Neurosciences meeting (CNS)*, 2009.
- [63] H. Rostro-Gonzalez, Bruno Cessac, J.-C. Vasquez, and T. Viéville. On deterministic reservoir computing : network complexity and algorithm. In *Neurocomp09*, 2009.
- [64] B. Cessac. Vrai ou faux ? grâce à la simulation, on peut tout prédire. *interstices*, 04-05, 2009.
- [65] H. Berry and B. Cessac. Du chaos dans les neurones. *Pour la Science*, 2009.

- [66] B. Cessac. A discrete time neural network model with spiking neurons. i. rigorous results on the spontaneous dynamics. *J. Math. Biol.*, 56(3) :311–345, 2008.
- [67] B. Siri, H. Berry, B. Cessac, B. Delord, and M. Quoy. A mathematical analysis of the effects of hebbian learning rules on the dynamics and structure of discrete-time random recurrent neural networks. *Neural Computation*, 20(12) :12, dec 2008. e-print : arXiv :0705.3690v1.
- [68] B. Cessac and T. Viéville. On dynamics of integrate-and-fire neural networks with adaptive conductances. *Frontiers in neuroscience*, 2(2), 2008.
- [69] B. Cessac, H.Rostro-Gonzalez, J.C. Vasquez, and T. Viéville. To which extend is the "neural code" a metric? In Laurent U. Perrinet and Emmanuel Daucé, editors, *Proceedings of the second french conference on Computational Neuroscience, Marseille*, page 5, October 2008.
- [70] B. Cessac, H.Rostro-Gonzalez, J.C. Vasquez, and T. Viéville. Statistics of spikes trains, synaptic plasticity and gibbs distributions. In Laurent U. Perrinet and Emmanuel Daucé, editors, *Proceedings of the second french conference on Computational Neuroscience, Marseille*, page 5, 2008.
- [71] B. Siri, H. Berry, B. Cessac, B. Delord, M. Quoy, O., and Temam. Learning-induced topological effects on dynamics in neural networks. In *Neuro-Comp06*, pages 206–209, 2006.
- [72] B. Cessac and J.A. Sepulchre. Linear response in a class of simple systems far from equilibrium. *Physica D*, 225(1) :13–28, 2007.
- [73] B. Siri, H. Berry, B. Cessac, B. Delord, and M. Quoy. Effects of hebbian learning on the dynamics and structure of random networks with inhibitory and excitatory neurons. *Journal of Physiology, Paris*, 101(1-3) :138–150, 2007.
- [74] B. Cessac and M. Samuelides. From neuron to neural networks dynamics. *EPJ Special topics : Topics in Dynamical Neural Networks*, 142(1) :7–88, 2007.
- [75] M. Samuelides and B. Cessac. Random recurrent neural networks. *European Physical Journal - Special Topics*, 142 :7–88, 2007.
- [76] B. Cessac. Does the complex susceptibility of the hénon map have a pole in the upper-half plane? a numerical investigation. *Nonlinearity*, 20 :2883–2895, 2007.
- [77] B. Cessac, E. Dauce, L. Perrinet, and M. Samuelides. Topics in dynamical neural networks. from large scale neural networks to motor control and vision, an introduction. *EPJ Special Topics*, 142(1) :1–5, 2007.
- [78] B. Cessac and T. Viéville. Revisiting time discretization of spiking network models. In *Computational Neurosciences meeting (CNS)*, 2007.

- [79] B. Cessac, T. Viéville, and C. Leininger. Le cerveau est-il un bon modèle de réseau de neurones? *Interstices*, 2007.
- [80] M. Barber, Ph. Blanchard, E. Buchinger, B. Cessac, and L. Streit. A luhmann-based model of communication, learning and innovation. *Journal of Artificial Societies and Social Simulation*, 9(4), 2006.
- [81] B. Cessac and J.A. Sepulchre. Transmitting a signal by amplitude modulation in a chaotic network. *Chaos*, 16(013104), 2006.
- [82] Chossat, P., Faye, G., and Faugeras, O. Some theoretical results for a class of neural mass equations. *SIADS*, 2010.
- [83] Chossat, P., Faye, G., and Faugeras, O. Bifurcation of hyperbolic planforms. *J. Nonlin. Sci.*, 2010.
- [84] Chossat, P. and Faugeras, O. Bifurcations dans l'espace hyperbolique en relation avec un modèle de perception des structures visuelles par le cortex. In *Compte-Rendus de la 13e Rencontre du Non Linéaire*. M. Lefranc, C. Letellier L. Pastur, 2008. Il s'agit d'une revue électronique référencée ISBN.
- [85] Chossat, P. and Faugeras, O. Hyperbolic planforms in relation to visual edges and textures perception. *Plos Computational Biology*, 2009.
- [86] Chossat, P. and Beltrame, P. Bifurcation of robust heteroclinic cycles in spherically invariant systems with $l = 3, 4$ mode interaction. *arXiv :0912.3709v1*, 2009.
- [87] Chossat, P. and Beltrame, P. Bifurcation de cycles hétéroclines robustes pour des systèmes invariants par symétrie sphérique avec interaction de modes de degrés $l = 3$ et 4 . In *Compte-Rendus de la 11e Rencontre du Non Linéaire*. M. Lefranc, C. Letellier L. Pastur, 2008.
- [88] Chossat, P. Une remarque sur les bifurcations avec une singularité quadratique pour les systèmes $o(3)$ invariants. *Comptes-Rendus de l'Académie des Sciences de Paris*, 344(8) :529–533, 2007.
- [89] Chossat, P. La complexité dans la nature et les brisures spontanées de symétrie. 2006.
- [90] Aliste, J., Coronel, A., and Gambaudo, J.-M. Rapid convergence to frequency for substitution tilings of the plane. 2010.
- [91] J.-R. Chazottes, Gambaudo, J.-M., and E. Ugalde. " zero-temperature limit of one-dimensional gibbs states via renormalization : The case of locally constant potentials". *Ergodic theory Dynam. Systems*, 2010.
- [92] M.-I. Cortez, Gambaudo, J.-M., and A. Maass. Rotation topological factors of minimal Z^d -actions of the Cantor set. *Trans. Amer. Math. Soc.*, 359(5) :2305–2315 (electronic), 2007.
- [93] J. Bellissard, R. Benedetti, and Gambaudo, J.-M. Spaces of tilings, finite telescopic approximations and gap-labeling. *Comm. Math. Phys.*, 261(1) :1–41, 2006.

- [94] Gambaudo, J.-M. A note on tilings and translation surfaces. *Ergodic Theory Dynam. Systems*, 26(1) :179–188, 2006.
- [95] Gambaudo, J.-M., P. Guiraud, and S. Petite. Minimal configurations for the Frenkel-Kontorova model on a quasicrystal. *Comm. Math. Phys.*, 265(1) :165–188, 2006.
- [96] Gambaudo, J.-M. and M. Martens. Algebraic topology for minimal Cantor sets. *Ann. Henri Poincaré*, 7(3) :423–446, 2006.
- [97] Gambaudo, J.-M. Knots, flows, and fluids. In *Dynamique des difféomorphismes conservatifs des surfaces : un point de vue topologique*, volume 21 of *Panor. Synthèses*, pages 53–103. Soc. Math. France, Paris, 2006.
- [98] Gautero, François. A non-trivial example of a free-by-free group with the haagerup property. *Groups, Geometry and Dynamics*, 2010. En cours de révision.
- [99] Gautero, François. Geodesics in trees of hyperbolic and relatively hyperbolic groups. *Proceedings of the Edinburgh Mathematical Society*, 2010. Preprint arXiv :0710.4079. En cours de révision.
- [100] Gautero, F. and F. Matheus. Poisson boundary of groups acting on real trees. *Israel Journal of Mathematics*, 2009. Preprint arXiv :0911.0616v2. Soumis.
- [101] Gautero, F. and M. Heusener. Cohomological characterization of relative hyperbolicity and combination theorem. *Publicacions Matemàtiques*, 53(2) :489–514, 2009.
- [102] Gautero, F. and M. Lustig. Mapping-tori of free group automorphisms are hyperbolic relatively to the polynomially growing subgroups. Preprint arXiv :0707.0822. En attente de resoumission à Duke Mathematical Journal., 2008.
- [103] Gautero, F. Combinatorial mapping-torus, branched surfaces and free group automorphisms. *Annali della Scuola Normale Superiore di Pisa. Classe di Scienze. Serie V*, 6(3) :405–440, 2007.
- [104] Legrand D Grammont F., Livet P. *Naturalizing Intention in Action*. Mit press edition, 2010.
- [105] M. J. Rochat, F. Caruana, A. Jezzini, L. Escola, I. Intskirveli, and Grammont F et al. Responses of mirror neurons in area f5 to hand and tool grasping observation. *Exp Brain Res*, 204(4) :605–616, 2010. 1432-1106 (Electronic) 0014-4819 (Linking) Journal article.
- [106] F. Grammont. La question des enchevêtrements hiérarchiques dans les sciences du vivants en général et dans les neurosciences en particulier. *Noesis*, 14 :249–262, 2009.

- [107] M. A. Umilta, L. Escola, I. Intskirveli, Grammont F, M. Rochat, F. Caruana, A. Jezzini, V. Gallese, and G. Rizzolatti. When pliers become ngers in the monkey motor system. *Proc Natl Acad Sci U S A*, 105(6) :2209–13, 2008. 1091-6490 (Electronic) 0027-8424 (Linking) Journal Article Research Support, Non-U.S. Gov't.
- [108] G. Gandolfo, D. Legrand, F. Taland, and Grammont F Mourard, P. L'intelligence du geste. *APBG*, 1 :131–162, 2006.
- [109] A. Riehle, Grammont F, and W. A. MacKay. Cancellation of a planned movement in monkey motor cortex. *Neuroreport*, 17(3) :281–5, 2006.
- [110] Lozi, R. Emergence of randomness from chaos. to appear, 2010.
- [111] Lozi, R., S. Hénaff, and I. Taralova. Dynamical analysis of a new statistically highly performant deterministic function for chaotic signals generation. *Series on Nonlinear Science Serie B*, 15, 2010.
- [112] Lozi, R., S. Hénaff, and I. Taralova. Exact and asymptotic synchronization of a new weakly coupled maps system. *Journal of Nonlinear Systems and Applications*, 1(2), 2010.
- [113] Lozi, R., S. Hénaff, and I. Taralova. Statistical and spectral analysis of a newly weakly coupled maps system. *Indian Journal of Industrial and Applied Mathematics*, 2(2) :1–17, 2009.
- [114] Lozi, R. and C. Fiol. Global orbit patterns for discrete maps. In I.M. Sushko A.N. Sharkovsky, editor, *European Conference on Iteration Theory*, volume 354, pages 112–144. Grazer Math. Ber.,, 2009.
- [115] Lozi, R. and C. Fiol. Global orbit patterns for dynamical systems on finite sets. In AIP, editor, *Modelling of Engineering and Technological Problems-9th ICIAM conference*, volume 1146, pages 303–331, 2009.
- [116] Lozi, R., S. Hénaff, and I. Taralova. Observers design for a new weakly coupled map function. In M.A. Aziz-Alaoui (Eds) C. Bertelle, X. Liu, editor, *3rd International Conference on Complex Systems and Applications*, volume 47-50, 2009.
- [117] Lozi, R. Chaotic pseudo random number generators via ultra weak coupling of chaotic maps and double threshold sampling sequences. In M.A. Aziz-Alaoui (Eds) C. Bertelle, X. Liu, editor, , *3rd International Conference on Complex Systems and Applications*, pages 20–24, 2009.
- [118] Lozi, R. New enhanced chaotic number generators. In *8th Conference of Indian Society of Industrial and Applied Mathematics, Jammu, mars 2007*, volume 1, pages 1–23, 2008.
- [119] Lozi, R. and C. Fiol. Cryptographie et g.o.p. (global orbit patterns) pour les systèmes dynamiques chaotiques. 2008.
- [120] Lozi, R. Chaotic sampling, very weakly coupling, and chaotic mixing : Three simple synergistic mechanisms to make new families of chaotic pseudo

- random number generators. In *6th EUROMECH Non Linear Dynamics Conference*. IPACS open Access Electronic Library, 2008.
- [121] Lozi, R. Nombre et hasard. *La Recherche*, HS 365+ :18–21, 2007.
 - [122] Lozi, R. Perspectives en perspective. *La Recherche*, 411 :82–83, 2007.
 - [123] Lozi, R. *Giga-periodic orbits for weakly coupled tent and logistic discretized maps*, pages 80–124. Anamaya Publishers, New Delhi, 2006.
 - [124] A. Gabrielli, M. Joyce, B. Marcos, and F. Sicard. A dynamical classification of the range of pair interactions. *ArXiv e-prints*, March 2010.
 - [125] A. Gabrielli, M. Joyce, and B. Marcos. Quasi-stationary states and the range of pair interactions. *ArXiv e-prints*, April 2010.
 - [126] M. Joyce, B. Marcos, and F. Sylos Labini. Dynamics of finite and infinite self-gravitating systems with cold quasi-uniform initial conditions. *Journal of Statistical Mechanics : Theory and Experiment*, 4 :19–+, April 2009.
 - [127] M. Joyce, B. Marcos, and T. Baertschiger. Towards quantitative control on discreteness error in the non-linear regime of cosmological n-body simulations. *mnras*, 394 :751–773, April 2009.
 - [128] A. Olivetti, J. Barré, B. Marcos, F. Bouchet, and R. Kaiser. Breathing Mode for Systems of Interacting Particles. *Physical Review Letters*, 103(22) :224301–+, November 2009.
 - [129] M. Joyce, B. Marcos, and F. Sylos Labini. Energy ejection in the collapse of a cold spherical self-gravitating cloud. *mnras*, 397 :775–792, August 2009.
 - [130] B. Marcos. Particle linear theory on a self-gravitating perturbed cubic Bravais lattice. *prd*, 78(4) :043536–+, August 2008.
 - [131] T. Baertschiger, M. Joyce, F. S. Labini, and B. Marcos. Gravitational dynamics of an infinite shuffled lattice : Early time evolution and universality of nonlinear correlations. *pre*, 77(5) :051114–+, May 2008.
 - [132] B. Marcos. Vlasov limit and discreteness effects in cosmological N-body simulations. *Communications in Nonlinear Science and Numerical Simulations*, 13 :119–124, February 2008.
 - [133] M. Joyce and B. Marcos. Quantification of discreteness effects in cosmological N-body simulations : Initial conditions. *prd*, 75(6) :063516–+, March 2007.
 - [134] M. Joyce and B. Marcos. Quantification of discreteness effects in cosmological N-body simulations. II. Evolution up to shell crossing. *prd*, 76(10) :103505–+, November 2007.
 - [135] B. Marcos, T. Baertschiger, M. Joyce, A. Gabrielli, and F. S. Labini. Linear perturbative theory of the discrete cosmological N-body problem. *prd*, 73(10) :103507–+, May 2006.

- [136] A. Gabrielli, T. Baertschiger, M. Joyce, B. Marcos, and F. S. Labini. Force distribution in a randomly perturbed lattice of identical particles with $1/r^2$ pair interaction. *pre*, 74(2) :021110–+, August 2006.
- [137] Patras, F., P. Del Moral, L. Miclo, and S. Rubenthaler. The convergence to equilibrium of neutral genetic models. *Stochastic Analysis and Applications*, 28(1) :123–143, 2010.
- [138] Patras, F., Ch. Brouder, and A. Mestre. Tree expansions in time-dependent perturbation theory. *J. Math. Phys.*, 2010. A paraitre.
- [139] Patras, F. and K. Ebrahimi-Fard. Exponential renormalization. *Annales Henri Poincaré*, 2010. A paraitre.
- [140] Patras, F., P. Del Moral, and S. Rubenthaler. Convergence of u-statistics for interacting particle systems. Soumis.
- [141] Patras, F., Jean-Pierre Lardy, and Francois-Xavier Vialard. In Christian Gourieroux et Monique Jeanblanc, editor, *Financial Risks : New Developments in Structured Product and Credit Derivatives*, chapter Correlation, CDOs of ABS and the subprime crisis. Economica. A paraitre.
- [142] Patras, F. and Ch. Blanchet-Scalliet. In D. Brigo, T. Bielecki, and F. Patras, editors, *Recent Advancements in the Theory and Practice of Credit Derivatives*, chapter Structural counterparty risk valuation for CDS, page 15. Bloomberg Press. A paraitre.
- [143] Patras, F. and P. Del Moral. In D. Brigo, T. Bielecki, and F. Patras, editors, *Recent Advancements in the Theory and Practice of Credit Derivatives*, chapter Interacting path systems for credit risk, page 15. Bloomberg Press. A paraitre.
- [144] Patras, F., Ch. Brouder, and A. Frabetti. In W van Suijlkomp K. Ebrahimi-Fard, M. Marcolli, editor, *Proceedings of the Conference on Combinatorics and Physics, Bonn, 2007*, chapter One-particle irreducibility with initial correlations. A paraitre.
- [145] Patras, F., K. Ebrahimi-Fard, and D. Manchon. A noncommutative bohnblust-spitzer identity for rota-baxter algebras solves bogolioubov's recursion. *J. Noncommutative Geom.*, 3(2) :181–222, 2009.
- [146] Patras, F., P. Del Moral, and S. Rubenthaler. Tree based functional expansions for feynman-kac particle models. *Annals of Applied Probability*, 19(2) :778–825, 2009.
- [147] Patras, F. and Ch. Brouder. Hyperoctahedral chen calculus for effective hamiltonians. *J. Algebra.*, 322(2) :4105–4120, 2009.
- [148] Patras, F. Contemp. math. In *Dynkin operators and renormalization group actions in pQFT. Proceedings of the Conference on Vertex Operator Algebras*, volume 497, pages 169–184. M. Bergvelt, G. Yamskulna, W. Zhao, 2009.

- [149] Patras, F. In D. Ria et A. Rossi C. Alunni, M. Castellana, editor, *Albert Einstein et Hermann Weyl, 1955-2005*, chapter Hermann Weyl : science et humanisme, pages 175–193. Barbieri Selavggi Editori et Editions rue d’Ulm, 2009.
- [150] Patras, F. In *Dictionnaire d’histoire de la philosophie*, chapter Les étapes de la philosophie mathématique contemporaine, pages 710–728. Le Seuil, 2009.
- [151] Patras, F. and M. Schocker. Trees, set compositions and the twisted descent algebra. *J. Alg. Comb.*, 28 :3–23, 2008.
- [152] Patras, F. and K. Ebrahimi-Fard. A zassenhaus-type algorithm solves the bogoliubov recursion. *Bulgarian J. of Physics.*, 35(1) :303–315, 2008.
- [153] Patras, F. and M. Livernet. Lie theory for hopf operads. *J. Algebra.*, 319(12) :4899–4920, 2008.
- [154] Patras, F., K. Ebrahimi-Fard, and D. Manchon. New identities in dendri-form algebras. *J. Algebra.*, 320(2) :708–727, 2008.
- [155] Patras, F. and P. Cassam-Chenai. Symmetry-adapted polynomial basis for global potential energy surfaces - applications to xy4 molecules. *J. Math. Chem.*, 44(2) :938–966, 2008.
- [156] Patras, F. Carnap, l’aufbau, et l’idée mathématique de structure. In J. Bouveresse et P. Wagner, editor, *Mathématiques et expérience. L’empirisme logique à l’épreuve (1918-1940).*, volume 182, pages 33–54. Odile Jacob–Collège de France, 2008.
- [157] Patras, F. and Solé, P. The coordinator polynomial of some cyclotomic lattices. *European J. Combin.*, 28(1) :17–25, 2007.
- [158] Patras, F., K. Ebrahimi-Fard, and J. Gracia-Bondia. Rota-baxter algebras and new combinatorial identities. *Letters in Math. Physics*, 81(1) :61–75, 2007.
- [159] Patras, F., K. Ebrahimi-Fard, and J. Gracia-Bondia. A lie theoretic approach to renormalization. *Comm. Math. Phys.*, 276 :519–549, 2007.
- [160] Patras, F. Entrées mathématiques : axiomatique, calcul différentiel et intégral, complexes, espaces vectoriels, fonction, géométries non euclidiennes, groupe, incomplétude, isomorphisme, topologie. *Dictionnaire du monde germanique, Eds E Décultot, M Espagne, J Le Rider, Paris, Bayard*, 2007.
- [161] Patras, F. Phaenomenologica. In L. Boi, P. Kersberg, and F. Patras, editors, *Rediscovering Phenomenology*, volume 182, chapter Pourquoi les nombres sont-ils “naturels” ?, pages 357–386. Springer, 2007.
- [162] Patras, F., L. Boi, and P. Kerszberg, editors. *Rediscovering Phenomenology.*, volume 182. Springer, 2007.

- [163] Patras, F. and Schocker, M. Twisted descent algebras and the solomon-tits algebra. *Adv. in Math.*, 199(1) :151–184, 2006.
- [164] Patras, F. A reflection principle for correlated defaults. *Stochastic Processes Appl.*, 116(4) :690–698, 2006.
- [165] Patras, F. Corrélation et défauts : évaluation de first-to-default swaps dans un modèle multi-name à la lardy-finkelstein. *Banque et Marchés*, pages 1–5, 2006.
- [166] Patras, F. *Il pensiero matematico contemporaneo. Trad. It. G. de Vivo e P. Pagli.* Bollati-Boringhieri, Collana Saggi Scienze, 2006.
- [167] M. Domijan and Pécou, E. Graph structure of mass-action reaction networks is rich in circuits. *J. Theor. Biol.*, 2010.
- [168] Dayan, F, Monticelli, M, J Pouysségur, and Pécou, E. Gene regulation in response to graded hypoxia : the non-redundant roles of the oxygen sensors phd and fih in the hif pathway. *J. Theor. Biol.*, 259(2) :304–316, 2009.
- [169] Pécou, E. Desynchronization of a one-parameter family of stable vector fields. *Nonlinearity*, 19 :261–276, 2006.
- [170] Pécou, E., A. Maass, D. Remenik, J. Briche, and M. Gonzalez. A mathematical model for copper homeostasis in *enterococcus hirae*. *Math. Biosci.*, 203(2) :222–239, 2006.
- [171] S. Kanani, Pumir, A., and V. Krinski. Genetically engineered cardiac pacemaker : stem cells transfected with *hcn2* genes and myocytes - a model. *Phys. Lett A*, 372 :141–147, 2008.
- [172] L. Ducasse and Pumir, A. Intermittent particle distribution in synthetic free-surface turbulent flows. *Phys. Rev E*, 77 :066304–, 2008.
- [173] Pumir, A., J. Graves, R. Ranganathan, and B. Shraiman. Systems analysis of the single photon response in invertebrate photoreceptors. *PNAS*, 105(54), 2008.
- [174] V. Barelko, N. Bessonov, G. Kichigina, D. Kiryukhin, Pumir, A., and V. Volpert. Travelling waves of fast cryo-chemical transformations in solids (non-arrhenius chemistry of the cold universe). *Math. Mod. Nat. Phen.*, 3(50), 2008.
- [175] Pumir, A. and G. Falkovich. Sling effect in collisions of water droplets in turbulent clouds. *J. Atm. Science*, 203(64) :4497, 2007.
- [176] Pumir, A., V. Barelko, and E. Buryak. Control of the boiling crisis : analysis of a model system. *European Physical Journal*, 60(1), 2007.
- [177] A Naso, Pumir, A., and M Chertkov. Statistical geometry in homogeneous and isotropic turbulence. *J. Turbulence*, 8(39) :13pp, 2007.
- [178] A Naso, M Chertkov, and Pumir, A. Scale dependence of the coarse-grained velocity derivative tensor : influence of large scale shear on small-scale turbulence. *J. Turbulence*, 7(41), 2006.

- [179] M. Bandi, W. I. Goldberg, and J. R. and Pumar, A. Cressman. Energy flux fluctuations in a finite volume of turbulent flow. *Phys. Rev. E*, 73 :026308, 2006.
- [180] E. Lombardi and Stolovitch, L. Normal forms of analytic perturbations of quasihomogeneous vector fields : Rigidity, analytic invariants sets and exponentially small approximation. 43(4) :659–718, 2010.
- [181] Stolovitch, L. Smooth gevreys normal forms of vector fields near a fixed point. pages 1–20, 2010. soumis à publication.
- [182] E. Lombardi and Stolovitch, L. Forme normale de perturbation de champs de vecteurs quasi-homogènes. *C.R. Acad. Sci, Paris, Série I*, 347 :143–146, 2009.
- [183] Stolovitch, L. Progress in normal form theory. *Nonlinearity*, 22(7) :R77–R99, 2009. invited article.
- [184] Stolovitch, L. Rigidity of poisson structures. *Proc. Steklov Inst. Math.*, 267(1) :256–269, 2009.
- [185] Stolovitch, L. Normal Forms of holomorphic dynamical systems. In W. Craig, editor, *Hamiltonian dynamical systems and applications*, pages 249–284. Springer-Verlag, 2008.
- [186] B. Braaksma and Stolovitch, L. Small divisors and large multipliers. *Ann. Inst. Fourier (Grenoble)*, 57(2) :603–628, 2007.