# Nicolas Garnier

Publications list / Liste de publications

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## Articles in reviewed journals / Articles dans des revues internationales

- Frederic Douarche, Sylvain joubaud, Nicolas B. Garnier, Artem Petrosyan and Sergio Ciliberto,
  *Work fluctuation theorems for harmonic oscillators*,
  To be published in Phys. Rev. Lett. (2006).

- Nicolas B. Garnier and Daniel K. Wójcik,
  *Spatiotemporal chaos: The microscopic perspective*,
  Phys. Rev. Lett. **96** (11) 114101 (2006).

- Nicolas Garnier and Sergio Ciliberto,
  *Non-equilibrium fluctuations in a resistor*,
  Phys. Rev. E **71** 060101(R) (2005).

- Sergio Hoyas, Ana Mancho, Henar Herrero, Nicolas Garnier, and Arnaud Chiffaudel,
  *Benard-Marangoni convection in a differentially heated cylindrical cavity*,
  Phys. Fluids **17** (4) 054104 (2005).

- Jean Virieux, Nicolas Garnier, Elisabeth Blanc and Jean-Xavier Dessa,
  *Paraxial ray tracing for atmospheric wave propagation*,
  Geophys. Res. Lett., **31** (20) L20106 (2004).

- Sergio Ciliberto, Nicolas Garnier, S. Hernandez, Cedric Lacpatia, Jean-François Pinton and Gerardo Ruiz Chavarria,
  *Experimental test of the Gallavotti-Cohen fluctuation theorem in turbulent flows*,
  Physica A **340** (1-3) pp 240–250 (2004).

- Yueheng Lan, Nicolas Garnier and Predrag Cvitanović,
  *Stationary modulated-amplitude waves in the 1-d complex Ginzburg-Landau equation*,
  Physica D **188** (3-4) pp 193–212 (2004).

- Nicolas Garnier, Roman Grigoriev and Michael Schatz,
  *Optical manipulation of microfluidic flows*,
  Phys. Rev. Lett. **91** (5) 054501 (2003). (cover of August 1st, 2003).

- Nicolas Garnier, Arnaud Chiffaudel, François Daviaud and Arnaud Prigent,
  *Nonlinear dynamics of waves and modulated waves in 1D thermocapillary flows: I. periodic solutions*,
  Physica D **174** (1-4), pp 1–29 (2003).

- Nicolas Garnier, Arnaud Chiffaudel and François Daviaud,
*Nonlinear dynamics of waves and modulated waves in 1D thermocapillary flows: II. convective/absolute transitions*,
Physica D **174** (1-4), pp 30–55 (2003).

- Nicolas Garnier, Arnaud Chiffaudel and François Daviaud,
*Convective and absolute Eckhaus instability leading to modulated waves in a finite box*,
Phys. Rev. Lett. **88** (13) 134501 (2002)

- Nicolas Garnier and Christiane Normand,
*Effects of curvature on hydrothermal waves instability of radial thermocapillary flows*,
Comptes-rendus de l'Académie des Sciences 2001 **2** (8) pp 1227–1233 (2001).

- J. Burguete, N. Mukolobwiez, F. Daviaud, N. Garnier and A. Chiffaudel,
*Buoyant-thermocapillary instabilities in an extended liquid layer subjected to a horizontal temperature gradient*.
Phys. Fluids **13** (10) pp 2773–2787 (2001).

- Nicolas Garnier and Arnaud Chiffaudel,
*Two dimensional hydrothermal waves in an extended cylindrical vessel*,
European Physical journal B, **19** (1), pp 87–96 (2001).

- Nicolas Garnier and Arnaud Chiffaudel,
*Nonlinear transition to a global mode for traveling-wave instability in a finite box*,
Phys. Rev. Lett., **86** (1), pp 75–78 (2001).

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## Conferences Proceedings/ Comptes-rendus de Conférences internationales

- Nicolas Garnier and Sergio Ciliberto, *Experimental results on the applications of Fluctuation Theorems in out of equilibrium systems*,
AIP Conference Proceedings 800 p519-526 (2005) ISBN 0-7354-0289-2
UPoN 4 2005 (4-th International Conference on Unsolved Problems of Noise, June 6-10, 2005, Gallipoli ITALY).

- Nicolas Garnier and Arnaud Chiffaudel, *2D hydrothermal waves as an extended non-linear waves system*,
Bulletin of the American Physical Society **44**, 102 (1999).

- Arnaud Chiffaudel and Nicolas Garnier, *Convective and absolute nature of hydrothermal waves instability*,
  Bulletin of the American Physical Society **44**, 74 (1999).

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## National Conferences Proceedings / Comptes-rendus de Conférences nationales avec comité de lecture

- L. Gostiaux, T. Dauxois, E. Falcon, & N. Garnier, *Mesure quantitative de gradients en fluide stratifie bidimensionnels*. Actes du colloque FLUVISU11, 7-9 juin 2005, Ecole Centrale de Lyon (2005).

- N. Garnier, A. Casner, A. Chiffaudel & F. Daviaud, *Sur la nature de la transition convectif/absolu de l'instabilité d'Eckhaus d'une onde non-linéaire*. Comptes-rendus de la 4ieme rencontre du Non-linéaire, Y. Pomeau & J. Ribotta éditeurs, Non Linéaire Publications, p.18-20 (2001).

- Nicolas Garnier & Arnaud Chiffaudel, *Caracteres absolu et convectif de l'instabilite en ondes hydrothermales*. Comptes-rendus de la 3ieme rencontre du Non-linéaire, Y. Pomeau & J. Ribotta éditeurs, Paris Onze Editions, p.233-238 (2000).

- N. Garnier, A. Chiffaudel & F. Daviaud, *Transition 1D-2D pour les ondes hydrothermales non-lineaires*. Compte-rendus de la 2ieme rencontre du Non-linéaire,Y. Pomeau & J. Ribotta éditeurs, Paris Onze Editions, p.193-198 (1999).

- N. Garnier, Arnaud Chiffaudel, François Daviaud & Arnaud Prigent *Ondes hydrothermales non-linéaires dans un disque et un anneau*. 2ieme colloque sur le Chaos temporel et le Chaos spatio-temporel, 7 & 8 décembre 1998, Rouen.

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## International Conferences / Conférences Internationales

- Nicolas Garnier and Sergio Ciliberto,
  NEXT-ΣΦ 3rd International Conference,
  13-18 August 2005, Kolymbari CRETE.

- from a work with Arnaud Chiffaudel and François Daviaud,
  Trends in Pattern Formation: From Amplitude Equations to Applications, 1st workshop and seminar,
  August 25 - September 05, 2003, MPIPKS, Dresden, Germany, (invited speaker).

- Nicolas Garnier, Yueheng Lan and Predrag Cvitanović,
  UAB Int. Conference on Differential Equations and Mathematical Physics, March 30 2002, University of Alabama at Birmimgham, AL, USA, (invited speaker).

- Nicolas Garnier, Arnaud Chiffaudel, François Daviaud,
  The complex Ginzburg-Landau equation: theoretical analysis and experimental applications in the dynamics of extended systems,
  May 21-23 2001, Firenze, Italia.

- Nicolas Garnier and Arnaud Chiffaudel,
  52nd Annual Meeting of the Division of Fluid Dynamics - American Physical Society,
  November 21-23 1999, New Orleans, LA, USA (two oral communications).

## National Conferences / Conférences Nationales

- Journées de Physique Statistique, Paris, janvier 1998: communication courte.

- 2ieme colloque sur le Chaos temporel et le Chaos spatio-temporel, Rouen, 7 & 8 décembre 1998 : communication orale.

- 2ieme rencontre du Non-linéaire, IHP, Paris, 15-16 mars 1999 : poster.

- Congrès de la Société Française de Physique, Clermont Ferrand, 5-9 juillet 1999 : communication orale.

- Journées de Physique Statistique, Paris, janvier 2000: communication courte.

- 3ieme rencontre du Non-linéaire, IHP, Paris, 9-10 mars 2000 : poster.

- 4ieme rencontre du Non-linéaire, IHP, Paris, mars 2001 : poster.

- GDR “ Phnomnes hors quilibre ”, ENS, Paris, 18, 19 novembre 2004.

## Seminars / Séminaires

- *Fluctuations dans les les systèmes hors-équilibre*,
  MIP, ENS - Univ. P6, P7, P11, Th. November 16th 2004.
- *Thermocapillary flows instabilities and hydrothermal waves in extended geometries*,
  Universidad de Castilla-La Mancha, Ciudad Real, February 13th 2003.
- *Instabilités convectives et absolues d'ondes non-linéaires*,
  ENS Lyon, January 27th 2003.
- *Opto-microfluidics, the fingering instability*,
  SPEC, CEA Saclay, May 29th 2002.
- *Non-linear traveling waves in finite geometry*,
  CNS, Georgia Institute of Technology, March 15th 2001.
- *Ondes non-linéaires propagatives en géomérie non-périodique*,
  INLN, Nice, Th. February 22nd 2001.
- *Ondes hydrothermales à deux dimensions d'espace*,
  LIMSI, Orsay, We. January 24th 2001.
- *Instabilités convectives et absolues en cellule finie : approche expérimentale*,
  LadHyX, Ecole Polytechnique, We. January 25th 2000.
- *Distinction convectif/absolu pour l'instabilité en ondes hydrothermales*,
  SPEC, CEA Saclay, december 1999.

## Miscellaneous / Divers

- Hydrothermal Waves, in "Dynamics of spatio-temporal cellular structures: Henri Benard centenary review",
  edited by I. Mutabazi, Jose E. Wesfreid, and E. Guyon, Springer Tracts in Modern Physics vol 207, p147-161, (ISBN: 0-387-40098-2) ISSN: 0081-3869 2006.
- Hydrothermal Waves entry in Encyclopedia of Nonlinear Science,
  ed. Alwyn Scott. New York and London: Routledge, 2004.
- Microfluids change direction,
  Physics in Action - Physics World, June 2004.

- Ecole d'été de Physique Théorique, Session LXXIV,
  Les Houches, France, July 31 - September 1, 2000.