

Publication de l'équipe  
Géométrie et Analyse  
2006 à 2009

## Année 2006

### Géométrie et Analyse, ACL 2006 :

1. Dehman Belhassen, Gérard Patrick, Lebeau Gilles. Stabilisation and control for the NLS on a compact surface. *Math. Zeitschrift*, 2006, vol. **254**, pp.729-749.
2. Delanoë Philippe, Loeper Grégoire. Gradient estimates for potentials of invertible gradient-mappings on the sphere. *Calculus of Variations and Partial Differential Equations*, 2006, vol. **26**, pp. 297-311.
3. Guillarmou Colin. Resonances on some geometrically finite hyperbolic manifolds. *Communications in Partial Differential Equations*, 2006, vol.**31** :1-3, pp.445-467.
4. Guillarmou Colin, Naud Frédéric. Wave 0-Trace and length spectrum on convex co-compact hyperbolic manifolds. *Communications in Analysis and Geometry*, 2006, vol. **14**, pp.945-967.
5. Kamotski Vladimir, Lebeau Gilles. Diffraction by an elastic wedge with stress-free boundary :existence and uniqueness. *Proceedings of the Royal Academic Society A*, 2006, vol. **462**, pp. 289-317.
6. Robert Frédéric, Druet Olivier. Bubbling phenomena for fourth-order four-dimensional PDEs with exponential growth. *Proceedings of the American Mathematical Society*, 2006, vol. **134** :3, pp.897-908.
7. Robert Frédéric, Hebey Emmanuel, Wen Yuliang. Compactness and global estimates for a fourth order equation of critical Sobolev growth arising in conformal geometry. *Communications in Contemporary Mathematics*, 2006, vol. **8** :1, pp.9-65.
8. Robert Frédéric, Ghossoub Nassif. Concentration estimates for Emden-Fowler equations with boundary singularities and critical growth. *IMRP*, 2006, Article ID 2186, pp.1-85.
9. Robert Frédéric, Ghossoub Nassif. The Effect of curvature on the best constant in the Hardy-Sobolev inequality. *Geometric and Functional Analysis*, 2006, vol. **16**, pp.1201-1245.
10. Robert Frédéric. Concentration phenomena for a fourth order equations with exponential growth : the radial case. *Journal of Differential Equations*, 2006, vol. **231**, pp.135-164.
11. Robert Frédéric, Adimurthi, Struwe Michael. Concentration phenomena for Liouville's equation in dimension four. *Journal of the European Mathematical Society*, 2006, vol. **8** :2, pp.171-180.
12. Rouvière François. Transformation aux rayons X sur un espace symétrique. *Comptes Rendus de l'Académie des Sciences de Paris. Série 1, Mathématique*, 2006, vol. **342**, pp.1-6.

### Géométrie et Analyse, INV 2006 :

13. Lebeau Gilles. Estimations de dispersion pour les ondes dans un domaine strictement convexe. Actes de la Conférence Evian Juin 2006.

### Géométrie et Analyse, OS 2006 :

14. Candelpergher Bernard. From analytic functions to divergent power series. pp. 15-37 in : *Lectures Notes in Control and Inform. Sci.*, vol. **327**, Springer-Verlag 2006.

### Géométrie et Analyse, AP 2006 :

15. Rouvière François. On Radon transforms and the kappa operator. Exposé à l'Université de Bruxelles, Novembre 2006, 12 p., accessible sur : <http://math.unice.fr/~frou/recherche/Radon06a.pdf>

## Année 2007

### Géométrie et Analyse, ACL 2007 :

16. Aubry Erwan. Finiteness of  $\pi_1$  and geometrical inequalities in almost positive Ricci. *Annales Scientifiques de l'Ecole Normale Supérieure*, 2007, vol. **40** :4, pp. 675-695.
17. Delanoë Philippe. Erratum to : Classical solvability in dimension 2 of the second boundary-value problem associated with the Monge-Ampère operator. *Annales de l'Institut Henri Poincaré. Analyse non linéaire*, 2007, vol. **24**, pp. 849-850.
18. Delanoë Philippe, Robert Frédéric. On the local Nirenberg problem for the Q-curvatures. *Pacific Journal of Mathematics*, 2007, vol. **231**, pp. 293-304.
19. Guerrero Sergio, Lebeau Gilles. Singular optimal control for a transport-diffusion equation. *Comm. Partial Diff. Eq.*, 2007, vol. **32**, pp. 1-24.
20. Guillarmou Colin, Guillopé Laurent. The determinant of the Dirichlet-to-Neumann map for surfaces with boundary. *Int. Math. Res. Not.*, 2007, vol. **22**, Art. ID rnm099 (26 pages).
21. Iooss Gérard. J. Boussinesq and the standing water waves problem. *C. R. Acad. Sci. Paris, Mécanique*, 2007, vol. **335** :9-10, pp.584-589.
22. Lebeau Gilles. Equations de Fokker-Planck géométriques II : estimations hypoelliptiques maximales. *Annales de l'Institut Fourier*, 2007, vol. **57**, pp. 1285-1314.

23. Robert Frédéric. Quantization effects for a fourth order equation of exponential growth in dimension four. *Proceedings of the Royal Society of Edinburgh*, 2007, sec. A, vol. **137**, pp. 531-553.
24. Roth Julien. Extrinsic radius pinching for hypersurfaces in space forms. *Differential Geometry and its Applications*, 2007, vol. **25** :5, pp. 485-499.

### **Géométrie et Analyse, ACTI 2007 :**

25. Robert Frédéric. On the influence of the kernel of the bi-harmonic operator on fourth order equations with exponential growth. *Discrete Contin. Dyn. Syst. 2007, Dynamical Systems and Differential Equations. Proceedings of the 6th AIMS International Conference*, suppl., pp. 875-882.

### **Géométrie et Analyse, COM 2007 :**

26. Rouvière François. Symmetric spaces and the Kashiwara-Vergne method. Exposé à la Conférence en l'honneur de Sigurdur Helgason, Reykjavik, Août 2007, 9 p., <http://math.unice.fr/~frou/recherche/Reykjavik07.pdf>

### **Géométrie et Analyse, AP 2007 :**

27. Delanoë Philippe. FAST stimulates mathematical research. *Feast France Newsletter*, Number **16** (11 April 2007, Ambassade de France à Canberra), pp. 3-4.

## **Année 2008**

### **Géométrie et Analyse, ACL 2008 :**

28. Abbondandolo Alberto, Figalli Alessio. Invariant measures of Hamiltonian systems with prescribed asymptotical Maslov index. *J. Fixed Point Theory*, 2008, vol. **3** :1, pp.95-120.
29. Ambrosio Luigi, Figalli Alessio. On the regularity of the pressure field of Brenier's weak solutions to incompressible Euler equations. *Calc. Var. PDE*, 2008, vol. **31** :4, pp.497-509.
30. Bernot Marc, Figalli Alessio. Synchronized traffic plans and stability of optima. *ESAIM Control Optim. Calc. Var. PDE*, 2008, vol. **14** :4, pp. 864-878.
31. Bernot Marc, Figalli Alessio, Santambrogio Filippo. Generalized solutions for the Euler equations in one and two dimensions, *Journal de Mathématiques Pures et Appliquées*, 2008, vol. **91** :2, 137-155.

32. Burq Nicolas, Lebeau Gilles, Planchon Fabrice. Global existence for energy critical waves in  $3 - d$  domains. *Jour. Amer. Math. Soc.*, 2008, vol. **21** :3, pp. 831-845.
33. Cannarsa Piermarco, Castelpietra Marco. Lipschitz continuity and local semiconcavity for exit time problems with state constraints. *Journal of Differential Equations*, 2008, vol. **245** :3, pp. 616-636.
34. Cannarsa Piermarco, Rifford Ludovic. Semiconcavity results for optimal control problems admitting no singular minimizing controls. *Ann. Inst. H. Poincaré, Anal. Non Linéaire*, 2008, vol. **25** :4, pp.773-802.
35. Chen Min, Iooss Gérard. Asymmetric periodic traveling wave patterns of two-dimensional Boussinesq systems. *Physica D : Nonlinear Phenomena*, 2008, vol. **237** :10-12, pp.1539-1552.
36. Delanoë Philippe. Lie solutions of Riemannian transport equations on compact manifolds. *Differential Geometry and its Applications*, 2008, vol. **26** :3, pp.327-338.
37. Delanoë Philippe. On the local Nirenberg problem for  $\sigma_k$ -type curvatures. *Pacific J. Math.*, 2008, vol. **234** :2, pp. 289-294.
38. Delanoë Philippe. On the local solvability of elliptic equations on compact manifolds. *Journal de Mathématiques Pures et Appliquées*, 2008, vol. **90**, pp.450-460.
39. Figalli Alessio. Existence and uniqueness of martingale solutions for SDEs with rough or degenerate coefficients. *J. Funct. Anal.*, 2008, vol. **254** :1, pp.109-153.
40. Figalli Alessio. A simple proof of the Morse-Sard theorem in Sobolev spaces. *Proc. Amer. Math. Soc.*, 2008, vol. **136** :10, pp.3675-3681.
41. Figalli Alessio, Juillet Nicolas. Absolute continuity of Wasserstein geodesics in the Heisenberg group. *J. Funct. Anal.*, 2008, vol. **255** :1, pp.133-141.
42. Figalli Alessio, Philipowski Robert. Convergence to the viscous porous medium equation and propagation of chaos. *ALEA Lat. Am. J. Proba. Math. Stat.*, 2008, vol. **4**, pp.185-203.
43. Figalli Alessio, Villani Cédric. An approximation lemma about the cut locus, with applications in optimal transport theory. *Methods Appl. Anal.*, 2008, vol. **15** :2, pp.149-154.
44. Guillarmou Colin, Hassell Andrew. The resolvent at low energy and Riesz transform for Schrödinger operators on asymptotically conic manifolds, Part I. *Math. Annalen*, 2008, vol. **341** :4, pp.859-896.
45. Guillarmou Colin, Sá Barreto Antônio. Scattering and inverse scattering on ACH manifolds. *J. reine angew. Math.*, 2008, vol. **622**, pp.1-55.
46. Michel Laurent. Remarks on non-linear Schrödinger equation with magnetic fields. *Comm. Partial Differential Equations*, 2008, vol. **33** :7, pp. 1198-1215.

47. Rifford Ludovic. A refinement of the Benoist Theorem on the size of Dini subdifferentials. *Comm. Pure Appl. Anal.*, 2008, vol. **7** :1, pp.119-124.
48. Rifford Ludovic. On viscosity solutions of certain Hamilton-Jacobi equations : regularity results and generalized Sard's theorems. *Comm. Partial Differential Equations*, 2008, vol. **33** :3, pp.517-559.
49. Robert Frédéric, Wei Juncheng. Asymptotic behavior of a fourth order mean field equation with Dirichlet boundary condition. *Indiana Univ. Math. J.*, 2008, vol. **57** :5, 2039-2060.
50. Roth Julien. Extrinsic radius pinching in space forms of nonnegative sectional curvature, *Math. Z.*, 2008, vol. **258** :1, pp. 227-240.
51. Roth Julien. Pinching of the first eigenvalue of the Laplacian and almost-Einstein hypersurfaces of Euclidean space, *Ann. Global Anal. Geom.*, 2008, vol. **33** :3, pp. 293-306.

### **Géométrie et Analyse, OS 2008 :**

52. Bismut Jean-Michel, Lebeau Gilles. The Hypoelliptic Laplacian and Ray-Singer Metrics. *Annals of Mathematics Studies*, vol. **167**, Princeton University Press, 2008, (376 pages).
53. Hebey Emmanuel, Robert Frédéric. Sobolev Spaces on Manifolds, pp. 375-415, in : *Handbook of Global Analysis*. Elsevier Scientific Publishing Company, 2008.
54. Lebeau Gilles. The hypoelliptic Laplacian of J.-M. Bismut, pp. 179-194, in : *Algebraic Analysis of Differential Equations*. T. Aoki, H. Ma Jima, Y. Takei, N. Tose, Editors. Springer-Verlag, 2008.

### **Géométrie et Analyse, AP 2008 :**

55. Rouvière François. Radon transforms on Grassmannians and the kappa operator. Exposé à l'Université de Casablanca, Juillet 2008, 14 p., accessible sur : <http://math.unice.fr/~frou/recherche/Radon08a.pdf>

## **Année 2009**

### **Géométrie et Analyse, ACL 2009 :**

56. Ambrosio Luigi, Figalli Alessio. Geodesics in the space of measure-preserving maps and plans. *Arch. Ration. Mech. Anal.*, 2009, vol. **194** :2, pp.421-462.
57. Ambrosio Luigi, Figalli Alessio. On flows associated to Sobolev vector fields in Wiener spaces : an approach à la DiPerna-Lions. *J. Funct. Anal.*, 2009, vol. **256**, pp.179-214.

58. Aubry Erwan. Diameter pinching in almost positive Ricci curvature. *Commentarii Math. Helv.*, 2009, vol. **84** :2, pp. 223-233.
59. Aubry Erwan. Bounds on the volume entropy and simplicial volume in Ricci curvature  $L^p$  bounded from below, *Int. Math. Res. Not.*, vol. **10** (2009), pp.1933-1946.
60. Aubry Erwan, Bertrand Jérôme, Colbois Bruno. Eigenvalue pinching on convex domains in space forms, *Transactions Amer. Math. Soc.*, vol. **361** :1 (2009), pp. 1-18.
61. Bayard Pierre, Delanoë Philippe. Entire spacelike radial graphs in the Minkowski space, asymptotic to the light-cone, with prescribed scalar curvature. *Annales Inst. H. Poincaré. Anal. non lin.*, 2009, vol. **26**, pp. 903-915.
62. Castelpietra Marco. Interior Sphere Property for level sets of the Value function of an exit time problem. *ESAIM – Control, Optim. and Calc. Var.*, 2009, vol. **15** :1, pp.102-116.
63. Dehman Belhassen, Lebeau Gilles. Analysis of the HUM control operator and exact controllability of non-linear waves in uniform time. *SIAM J. Control Optim.*, 2009, vol. **48** :2, pp. 521-550.
64. Delanoë Philippe. Variational Heuristics for Optimal Transportation Maps on Compact manifolds. *Analysis*, 2009, vol. **29**, pp.221–228.
65. Diaconis Persi, Lebeau Gilles. Microlocal analysis for the Metropolis algorithm. *Math. Z.*, 2009, vol. **262** :2, pp.411-442.
66. Fathi Albert, Figalli Alessio, Rifford Ludovic. On the Hausdorff dimension of the Mather quotient. *Comm. Pure Appl. Math.*, 2009, vol. **LXII**, :4, pp.445-500.
67. Figalli Alessio. A geometric lower bound on Grad’s number. *ESAIM Control Optim. Calc. Var.*, 2009, vol. **15** :3, pp.569-575.
68. Figalli Alessio, Loeper Grégoire.  $C^1$  regularity of solutions of the Monge–Ampère equation for optimal transport in dimension two. *Calc. Var. Partial Differential Equations*, 2009, vol. **35** :4, pp.537-550.
69. Figalli Alessio, Maggi Francesco, Pratelli Aldo. A note on Cheeger sets. *Proc. Amer. Math. Soc.*, 2009, vol. **137**, pp. 2057-2062.
70. Figalli Alessio, Rifford Ludovic. Continuity of optimal transport maps and convexity of injectivity domains on small deformations of the two-sphere. *Comm. Pure Appl. Math.*, 2009, vol. **LXII** :12, pp. 1670-1706.
71. Filippucci Roberta, Pucci Patrizia, Robert Frédéric. On a  $p$ -laplace equation with multiple critical nonlinearities. *J. Math. Pures Appl.*, 2009, vol. **91** :2, 156-177.
72. Ghoussoub Nassif, Robert Frédéric. Elliptic equations with critical growth and a large set of boundary singularities. *Trans. Amer. Math. Soc.*, 2009, vol. **361** :9, 4843-4870.

73. Guillarmou Colin. Generalized Krein formula, determinants and Selberg zeta function in even dimension. *American J. Math.*, 2009, vol. **131** :5, pp. 1359-1417.
74. Guillarmou Colin, Hassell Andrew. The resolvent at low energy and Riesz transform for Schrodinger operators on asymptotically conic manifolds, Part II. *Ann. Inst. Fourier*, 2009, vol. **59** :2, pp.1553-1610.
75. Guillarmou Colin, Naud Frédéric. Wave decay on convex co-compact hyperbolic manifolds. *Comm. Math. Physics*, 2009, vol. **287** :2, pp.489-511.
76. Guillarmou Colin, Sá Barreto Antônio. Inverse Problems for Einstein manifolds. *Inverse Problems and Imaging*, 2009, vol. **3** :1, pp.1-15.
77. Hosseini Mouhamad. Solutions entières d'équations hessiennes dans  $R^n$ . *C. R. Acad. Sci. Paris, Série 1, Mathématique*, 2009, vol. **347**, pp. 1047-1050.
78. Iooss Gérard, Plotnikov Pavel. Existence of a directional Stokes drift in asymmetrical three-dimensional travelling gravity waves. *Comptes Rendus - Mécanique*, 2009, vol. **337** :9-10, pp. 633-638.
79. Lamm Tobias, Robert Frédéric, Struwe Michael. The heat flow with a critical exponential. *J. Funct. Anal.*, 2009, vol. **257** :9, pp.2951-2998.
80. Micheletti Anna Maria, Pistoia Angela, Vétois Jérôme. Blow-up solutions for asymptotically critical elliptic equations on Riemannian manifolds. *Indiana Univ. Math. J.*, 2009, vol. **58** :4, pp. 1719-1746.
81. Rifford Ludovic, Trélat Emmanuel. On the stabilization problem for non-holonomic distributions, *J. Europ. Math. Soc.*, 2009, vol. **11**, pp.223-255.

### **Géométrie et Analyse, ACTI 2009 :**

82. Delanoë Philippe. Differential Geometric Heuristics for Riemannian Optimal Mass Transportation, pp.49-73, in : *Abel Symposia*, vol. **5**. Proceedings of the Fifth Abel Symposium on Differential Equations : Geometry, Symmetries and Integrability, June 18-21, 2008, Tromsø, Norway. Springer-Verlag, Berlin, Heidelberg, Paris, 2009.
83. Guillarmou Colin. Scattering on geometrically finite hyperbolic quotients with rational cusps. *Cubo Journal* (special issue for the Proceedings of the second symposium in Spectral Theory and Scattering), 2009, 33 pages.
84. Iooss Gérard. Water-waves and reversible spatial dynamics. *2nd International Congress of Serbian Society of Mechanics*, Palic, Serbie, parue en 2009 (10 pages).
85. Roth Julien. Rigidity results for geodesic spheres in space forms, in : pp. 156-163, *Differential Geometry, Proceedings of the VIII International Colloquium in Differential Geometry, Santiago de Compostela*, 2009, World Scientific.



## Géométrie et Analyse, OS 2009 :

86. Candelpergher Bernard. Calcul Intégral. *Enseignement des Mathématiques*, **26**, Editions Cassini Paris (2009), 460 pages.
87. Iooss Gérard, Plotnikov Pavel. Small divisor problem in the theory of three-dimensional water gravity waves. *Mem. Am. Math. Soc.*, 2009, vol. **200**, No. 940, 128 pages.
88. Rouvière François. Petit guide de calcul différentiel (troisième édition revue et corrigée). *Enseignement des mathématiques*, **4**, Editions Cassini Paris (2009), 427 + xv pages.

## Année 2010

### Géométrie et Analyse, ACL 2010 :

89. Aubry Erwan, Guillarmou Colin. Conformal harmonic forms, Branson–Gover operators and Dirichlet problem at infinity. *J. Europ. Math. Soc.*, 2010, à paraître.
90. Candelpergher Bernard, Gadiyar H.Gopalkrishna, Padma R.. Ramanujan summation and the exponential generating function  $\sum_{k=0}^{\infty} \frac{z^k}{k} \zeta'(k)$ . *Ramanujan J.*, 2010, vol. **21** :1, pp. 99-122.
91. Candelpergher Bernard, Grandou Thierry. On the renormalizing series of some integral equations. *Theoretical and Mathematical Physics*, 2010, vol. **163** :2, pp. 653-665.
92. Candelpergher Bernard, Coppo Marc–Antoine. La fonction Zeta d’Arakawa–Kaneko. *Ramanujan J.*, 2010, sous presse, (DOI :10.1007/s11139-009-9205-x) (9 pages).
93. Castelpietra Marco, Rifford Ludovic. Regularity properties of the distance function  $\text{to}i_{\frac{1}{2}}$  conjugate and cut loci for viscosity solutions of Hamilton–Jacobi equations and applications in Riemannian geometry. *ESAIM Control Optim. Calc. Var.*, 2010, à paraître (24 pages).
94. Delanoë Philippe, Ge Yuxin. Regularity of optimal transport on compact locally nearly spherical, manifolds, *J. reine angew. Math.*, 2010, vol. **646**, pp.65-115.
95. De Pascale Luigi, Rigot Séverine. Monge’s transport problem in the Heisenberg group, 2010, à paraître dans *Adv. Calc. Var.*
96. Druet Olivier, Hebey Emmanuel, Vétois Jérôme. Bounded stability for strongly coupled critical elliptic systems below the geometric threshold of the conformal Laplacian. *J. Funct. Anal.*, 2010, vol. **258** :3, pp. 999-1059.

97. Fathi Albert, Figalli Alessio. Optimal transportation on non-compact manifolds. *Israel J. Math.*, 2010, vol. **175**, pp. 1-59.
98. Figalli Alessio. The optimal partial transport problem, *Arch. Ration. Mech. Anal.*, 2010, vol. **195** :2, pp. 533-560.
99. Figalli Alessio, Rifford Ludovic. Mass transportation on sub-Riemannian manifolds. *Geom. Funct. Anal.*, 2010, vol. **20** :1, pp.124-159.
100. Grunau Hans-Christoph, Robert Frédéric. Positivity issues of biharmonic Green's functions under Dirichlet boundary conditions : Dedicated to Prof. Wolf von Wahl on the occasion of his 65th birthday. *Archive for Rational Mechanics and Analysis*, 2010, vol. **195**, pp.865-898.
101. Guillarmou Colin, Qing Jie. Spectral characterization of Poincare-Einstein manifold with infinity of positive Yamabe type. *Int. Math. Res. Not.*, 2010, à paraître.
102. Iooss Gérard, Lombardi Eric. Approximate invariant manifolds up to exponentially small terms. *J. Diff. Eq.*, 2010, sous presse, DOI :10.1016/j.jde.
103. Iooss Gérard, Plotnikov Pavel. Asymmetrical tridimensional travelling gravity waves. 2009, *Arch. Rat. Mech. Anal.*, à paraître (87 pages).
104. Iooss Gérard, Rucklidge Alastair. On the existence of quasipattern solutions of the Swift–Hohenberg equation. *J. Nonlinear Science*, à paraître (32 pages).
105. Jbilou Asma. Equations hessiennes complexes sur des variétés kählériennes compactes. *C. R. Acad. Sci. Paris, Série 1*, 2010, vol. **348** : 1-2, pp.41-46.
106. Lawn Marie-Amélie, Roth Julien. Isometric immersions of hypersurfaces into 4-dimensional manifolds via spinors. *Differential Geometry and its Applications*, 2010, vol. **28** :2, pp. 205-219.
107. Lebeau Gilles, Michel Laurent. Semiclassical analysis of a random walk on a manifold. *Annals of Probability*, 2010, vol. **38** :1, pp. 277-315.
108. Lebeau Gilles, Nodet Maëlle. Experimental Study of the HUM Control Operator for Linear Waves, *Experimental Mathematics*, 2010, vol. **19** :1, pp.93-120.
109. Michel Laurent. Analyse semi-classique d'algorithmes de types Metropolis. *Gazette des mathématiciens*, 2010, vol. **123**, pp.16-34.
110. Rigot Séverine, Wenger Stefan. Lipschitz non-extension theorems into jet space Carnot groups, *Int. Math. Res. Not.*, 2010, sous presse, (DOI :10.1093/imrn/rnq023).
111. Rigot Séverine. Isodiametric inequality in Carnot groups, 2010, à paraître dans *Ann. Acad. Sci. Fenn. Math.*
112. Rouvière François. X-ray transform on Damek–Ricci spaces. *Inverse Problems and Imaging*, 2010, à paraître (8 pages).

113. Vétois Jérôme. Asymptotic stability, convexity, and Lipschitz regularity of domains in the anisotropic regime. *Commun. Contemp. Math.*, 2010, vol. **12** :1, pp. 35-53.
114. Vétois Jérôme. Existence and regularity for critical anisotropic equations with critical directions. *Diff. & Integral Eq.*, 2010, (à paraître, 23 pages).