

CURRICULUM VITÆ

Josselin GARNIER

Professor, Ecole Polytechnique, France
Centre de Mathématiques Appliquées

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Education

B.S., M.S., Ecole Normale Supérieure, France, 1991-1994.

Ph.D., Ecole Polytechnique, France, 1996.

Habilitation Degree, University of Paris VI, France, 2000.

Academic experience

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| 1996 - 2001 | CNRS Research fellow, Ecole Polytechnique. |
| 2001 - 2005 | Associate Professor, University Paul Sabatier - Toulouse III. |
| 2005 - 2007 | Associate Professor, University Paris Diderot - Paris VII. |
| 2007 - 2016 | Professor, University Paris Diderot - Paris VII. |
| 2016 - present | Professor, Ecole Polytechnique. |
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Honors and awards

- Blaise Pascal prize, Académie des Sciences, 2007.
 - Felix Klein prize, European Mathematical Society, 2008.
 - Junior member, Institut Universitaire de France, 2008-2013.
 - Schlumberger chair, Institut des Hautes Études Scientifiques, 2010-2011 and 2013-2014.
 - Invited speaker, International Congress of Mathematicians, Rio de Janeiro, Brazil, 2018.
 - Grand Prix scientifique de la Fondation Simone et Cino Del Duca, Institut de France, 2021.
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Other professional activities

- Vice chairman of the Applied Mathematics Department at Ecole Polytechnique (2018-).
 - Deputy director of Fondation Mathématique Jacques Hadamard, in charge of LabEx Hadamard (2019-).
 - Founder of the start-up companies Sivienn (2014-) and Lusenn (2017-).
 - Scientific consultant at Commissariat à l'Energie Atomique (2004-).
 - Member of the scientific committees of the GdR MASCOT-NUM (Méthodes d'Analyse Stochastique pour les COdes et Traitements NUMériques) and Institut Cournot.
 - Affiliated professor, Ecole Normale Supérieure, Paris (2011-2014).
 - Co-PI of the ERC advanced grant project MULTIMOD (2011-2016).
 - Editor, Modelling and Simulation in Medical Imaging Book Series, Imperial College Press, and Mathématiques et Applications Series, Springer.
 - Member of the editorial boards of the journals *Asymptotic Analysis*, *Discrete and Continuous Dynamical Systems Series S*, *ESAIM P&S*, *Mathematics Research Reports*, *SIAM Journal on Applied Mathematics*, and *SIAM/ASA Journal on Uncertainty Quantification (JUQ)*.
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PUBLICATIONS

These papers can be downloaded from <https://www.josselin-garnier.org>

Regular papers

1. J. Garnier, *Stochastic invariant imbedding. Application to stochastic differential equations with boundary conditions*, Prob. Th. Rel. Fields **103** (1995), pp. 249–271.
2. J. Garnier, *Homogenization in a periodic and time-dependent potential*, SIAM, J. Appl. Math. **57** (1997), pp. 95–111.
3. J. Garnier, *Multi-scaled diffusion-approximation. Applications to wave propagation in random media*, European Series in Applied and Industrial Mathematics, Probability & Statistics **1** (1997), pp. 183–206.
4. J. Garnier, L. Videau, C. Gouédard, and A. Migus, *Statistical analysis of beam smoothing and some applications*, J. Opt. Soc. Am. A **14** (1997), pp. 1928–1937.
5. J. Garnier, J.-P. Fouque, L. Videau, C. Gouédard, and A. Migus, *Amplification of broadband incoherent light in homogeneously broadened media in presence of Kerr nonlinearity*, J. Opt. Soc. Am. B **14** (1997), pp. 2563–2569.
6. J. Garnier, *Transmission of solitons through random media*, SIAM, J. Appl. Math. **58** (1998), pp. 1969–1995.
7. J. Garnier, L. Videau, C. Gouédard, and A. Migus, *Propagation and amplification of incoherent pulses in dispersive and nonlinear media*, J. Opt. Soc. Am. B **15** (1998), pp. 2773–2781.
8. J. Garnier, *Asymptotic behavior of the quantum harmonic oscillator driven by a random time-dependent electric field*, J. Stat. Phys **93** (1998), pp. 211–241.
9. J. Garnier, L. Kallel, and M. Schoenauer, *Rigorous hitting times for binary mutations*, Evolutionary Computation **7** (1999), pp. 173–203.
10. J. Garnier, *Statistics of the hot spots produced by Random Phase Plates revisited*, Phys. Plasmas **6** (1999), pp. 1601–1610.
11. J. Garnier, C. Gouédard, and A. Migus, *Statistics of the hottest spot of speckle patterns generated by smoothing techniques*, Journal of Modern Optics **46** (1999), pp. 1213–1232.
12. L. Videau, C. Rouyer, J. Garnier, and A. Migus, *Motion of hot spots in smoothed beams*, J. Opt. Soc. Am. A **16** (1999), pp. 1672–1681.
13. F. Kh. Abdullaev and J. Garnier, *Modulational instability in birefringent fibers with periodic and random dispersion*, Phys. Rev. E **60** (1999), pp. 1042–1050.
14. F. Kh. Abdullaev and J. Garnier, *Solitons in media with random dispersive perturbations*, Physica D **134** (1999), pp. 303–315.
15. J. Garnier, *Energy distribution of the quantum harmonic oscillator under random time-dependent perturbations*, Phys. Rev. E **60** (1999), pp. 3676–3687.
16. J. Garnier, *Light propagation in square law media with random imperfections*, Wave Motion **31** (2000), pp. 1–19.
17. J. Garnier and L. Kallel, *Statistical distribution of the convergence time of evolutionary algorithms for longpath problems*, IEEE Transactions on Evolutionary Computation **4** (2000), pp. 16–30.
18. J. Garnier, C. Gouédard, and L. Videau, *Propagation of a partially coherent beam under the interaction of small and large scales*, Opt. Commun. **176** (2000), pp. 281–297.

19. L. Videau, C. Rouyer, J. Garnier, and A. Migus, *Generation of a pure phase modulated pulse by cascading effect. A theoretical approach*, J. Opt. Soc. Am. B **17** (2000), pp. 1008–1017.
20. J. Garnier and F. Kh. Abdullaev, *Modulational instability induced by randomly varying coefficients for the nonlinear Schrodinger equation*, Physica D **145** (2000), pp. 65–83.
21. J. Garnier, *Propagation of solitons in a randomly perturbed Ablowitz-Ladik chain*, Phys. Rev. E **63** (2001), 026608.
22. J. Garnier, *High-frequency asymptotics for Maxwell's equations in anisotropic media. Part I: Linear geometric and diffractive optics*, J. Math. Phys. **42** (2001), pp. 1612–1635.
23. J. Garnier, *High-frequency asymptotics for Maxwell's equations in anisotropic media. Part II: Nonlinear propagation and frequency conversion*, J. Math. Phys. **42** (2001), pp. 1636–1654.
24. J. Garnier, F. Kh. Abdullaev, E. Seve, and S. Wabnitz, *Role of polarization mode dispersion on modulational instability in optical fibers*, Phys. Rev. E **63** (2001), 066616.
25. J. Garnier, *Solitons in random media with long-range correlation*, Waves Random Media **11** (2001), pp. 149–162.
26. M.-O. Bernard, J. Garnier, and J.-F. Gouyet, *Laplacian growth of parallel needles. A Fokker-Planck equation approach*, Phys. Rev. E **64** (2001), 041401.
27. J. Garnier and L. Videau, *Statistical analysis of the sizes and velocities of laser hot spots of smoothed beams*, Phys. Plasmas **8** (2001), pp. 4914–4924.
28. J. Garnier, *Long-time dynamics of Korteweg-de Vries solitons driven by random perturbations*, J. Statist. Phys. **105** (2001), pp. 789–833.
29. J. Garnier and L. Kallel, *Efficiency of local search with multiple local optima*, SIAM J. Discrete Math. **15** (2002), pp. 122–141.
30. J. Garnier, *Instability of a quantum particle induced by a randomly varying spring coefficient*, Progress in Probability **52**, Birkhauser Verlag, 2002, pp. 153–172.
31. J. Garnier, *Stabilization of dispersion-managed solitons in random optical fibers by strong dispersion management*, Opt. Commun. **206** (2002), pp. 411–438.
32. J. Garnier, J. Fatome, and G. Le Meur, *Statistical analysis of pulse propagation driven by polarization-mode dispersion*, J. Opt. Soc. Am. B **19** (2002), pp. 1968–1977.
33. J. Garnier and F. Kh. Abdullaev, *Soliton dynamics in a random Toda chain*, Phys. Rev. E **67** (2003), 026609.
34. J. Garnier, P.-A. Raviart, C. Cherfils-Cl  rouin, and L. Masse, *Weakly nonlinear theory for the ablative Rayleigh-Taylor instability*, Phys. Rev. Lett. **90** (2003), 185003.
35. J. Garnier, J.-P. Ayanides, and O. Morice, *Propagation of partially coherent light by the Maxwell-Debye equation*, J. Opt. Soc. Am. B **20** (2003), pp. 1409–1417.
36. J. Garnier, *Length scale competition for the sine-Gordon kink in random environment*, Phys. Rev. B **68** (2003), 134302.
37. J. Garnier, C. Cherfils-Cl  rouin, and P.-A. Holstein, *Statistical analysis of multi-mode weakly nonlinear Rayleigh-Taylor instability in presence of surface tension*, Phys. Rev. E **68** (2003), 036401.
38. J.-P. Fouque, J. Garnier, J. C. Munoz Grajales, and A. Nachbin, *Time reversing solitary waves*, Phys. Rev. Lett. **92** (2004), 094502.
39. J. Garnier, F. Kh. Abdullaev, and B. B. Baizakov, *Collapse of a Bose-Einstein condensate induced by fluctuations of the laser intensity*, Phys. Rev. A **69** (2004), 053607.
40. D. G. Alfaro Vigo, J.-P. Fouque, J. Garnier, and A. Nachbin, *Robustness of time reversal for waves in time-dependent random media*, Stochastic Process. Appl. **111** (2004), pp. 289–313.

41. J.-P. Fouque, J. Garnier, and A. Nachbin, *Shock structure due to stochastic forcing and the time reversal of nonlinear waves*, Physica D **195** (2004), pp. 324–346.
42. J. Garnier and A. Nachbin, *The eddy viscosity for time reversing waves in a dissipative environment*, Phys. Rev. Lett. **93** (2004), 154501.
43. J.-P. Fouque, J. Garnier, and A. Nachbin, *Time reversal for dispersive waves in random media*, SIAM J. Appl. Math **64** (2004), pp. 1810–1838.
44. F. Kh. Abdullaev and J. Garnier, *Collective oscillations of one-dimensional Bose-Einstein gas under varying in time trap potential and atomic scattering length*, Phys. Rev. A **70** (2004), 053604.
45. J. Garnier and C. Cherfils, *A multi-scale analysis of the hotspot dynamics during the deceleration phase of inertial confinement capsules*, Phys. Plasmas. **12** (2005), 012704.
46. J. Garnier and F. Kh. Abdullaev, *Symmetry breaking induced by random fluctuations for Bose-Einstein condensates in a double-well trap*, Phys. Rev. A **71** (2005), 033603.
47. J. Garnier and L. Masse, *Statistical approach of weakly nonlinear ablative Rayleigh-Taylor instability*, Phys. Plasmas **12** (2005), 062707.
48. J.-P. Fouque, J. Garnier, A. Nachbin, and K. Solna, *Time reversal refocusing for point source in randomly layered media*, Wave Motion **42** (2005), pp. 238–260.
49. F. Kh. Abdullaev and J. Garnier, *Dynamical stabilization of solitons in cubic-quintic nonlinear Schrödinger model*, Phys. Rev. E **72** (2005), 035603R.
50. J. Sanz, J. Garnier, C. Cherfils, B. Canaud, L. Masse, and M. Temporal, *Self-consistent analysis of the hot spot dynamics for inertial confinement fusion capsules*, Phys. Plasmas **12** (2005), 112702.
51. P. Del Moral and J. Garnier, *Genealogical particle analysis of rare events*, Ann. Appl. Probab. **15** (2005), pp. 2496–2534.
52. J. Garnier, *Imaging in randomly layered media by cross-correlating noisy signals*, SIAM Multiscale Model. Simul. **4** (2005), pp. 610–640.
53. F. Kh. Abdullaev and J. Garnier, *Propagation of matter wave solitons in periodic and random nonlinear potentials*, Phys. Rev. A **72** (2005), 061605R.
54. J. Garnier, *Statistical analysis of noise-induced multiple filamentation*, Phys. Rev. E **73** (2006), 046611.
55. J. Garnier and R. Marty, *Effective pulse dynamics in optical fibers with polarization mode dispersion*, Wave Motion **43** (2006), pp. 544–560.
56. J. Garnier and A. Nachbin, *The eddy viscosity for gravity waves propagating over turbulent surfaces*, Physics of Fluids **18** (2006), 055101.
57. J. Garnier and F. Kh. Abdullaev, *Transmission of matter wave solitons through nonlinear traps and barriers*, Phys. Rev. A **74** (2006), 013604.
58. J. Garnier and P. Del Moral, *Simulations of rare events in fiber optics by interacting particle systems*, Opt. Commun. **267** (2006), pp. 205–214.
59. J.-P. Fouque, J. Garnier, and K. Sølna, *Time reversal super resolution in randomly layered media*, Wave Motion **43** (2006), pp. 646–666.
60. J. Garnier, G. Malinié, Y. Saillard, and C. Cherfils-Clérouin, *Self-similar solutions for a nonlinear radiation diffusion equation*, Phys. Plasmas **13** (2006), 092703.
61. F. Kh. Abdullaev and J. Garnier, *Dynamical localization of matter wave solitons in managed barrier potentials*, Phys. Rev. A **75** (2007), 033603.
62. J. Garnier, F. Kh. Abdullaev, and M. Salerno, *Solitons in strongly driven discrete nonlinear Schrödinger-type models*, Phys. Rev. E **75** (2007), 016615.

63. J. Garnier, *The role of evanescent modes in randomly perturbed single-mode waveguides*, Discrete and Continuous Dynamical Systems Series B **8** (2007), pp. 455–472.
64. J. Garnier and G. Papanicolaou, *Pulse propagation and time reversal in random waveguides*, SIAM J. Appl. Math. **67** (2007), pp. 1718–1739.
65. J. Garnier, J. C. Munoz Grajales, and A. Nachbin, *Effective behavior of solitary waves over random topography*, SIAM Multiscale Model. Simul. **6** (2007), pp. 995–1025.
66. J. Garnier, R. A. Kraenkel, and A. Nachbin, *An optimal Boussinesq model for shallow-water waves interacting with a microstructure* Phys. Rev. E **76** (2007), 046311.
67. J. Fatome, J. Garnier, S. Pitois, M. Petit, G. Millot, M. Gay, B. Clouet, L. Bramerie, and J.-C. Simon, *All-optical measurements of background, amplitude and timing jitter for high speed pulse trains or PRBS sequences using autocorrelation function*, Optical Fiber Technology **14** (2008), pp. 84–91.
68. C. Bardos, J. Garnier, and G. Papanicolaou, *Identification of Green’s functions singularities by cross correlation of noisy signals*, Inverse Problems **24** (2008), 015011.
69. J. Garnier and G. Papanicolaou, *Analysis of pulse propagation through an one-dimensional random medium using complex martingales*, Stochastics and Dynamics **8** (2008), pp. 127–138.
70. J. Garnier and K. Sølna, *Effective transport equations and enhanced backscattering in random waveguides*, SIAM J. Appl. Math. **68** (2008), pp. 1574–1599.
71. J. Garnier and K. Sølna, *Random backscattering in the parabolic scaling*, J. Stat. Phys. **131** (2008), pp. 445–486.
72. G. Bal, J. Garnier, S. Motsch, and V. Perrier, *Random integrals and correctors in homogenization*, Asymptotic Analysis **59** (2008), pp. 1–26.
73. J. Garnier and K. Sølna, *Coherent interferometric imaging for synthetic aperture radar in the presence of noise*, Inverse Problems **24** (2008), 055001.
74. J. Garnier and C. Cherfils-Clérouin, *The role of nuclear reactions and alpha-particle transport in the dynamics of Inertial Confinement Fusion capsules*, Phys. Plasmas **15** (2008), 102702.
75. C. Cannamela, J. Garnier, and B. Iooss, *Controlled stratification for quantile estimation*, Ann. Appl. Stat. **2** (2008), pp. 1554–1580.
76. J. Garnier and K. Sølna, *Pulse propagation in random media with long-range correlation*, SIAM Multiscale Model. Simul. **7** (2008), pp. 1302–1324.
77. J. Garnier and K. Sølna, *Coupled paraxial wave equations in random media in the white-noise regime*, Ann. Appl. Probab. **19** (2009), pp. 318–346.
78. J. Garnier and K. Sølna, *Scaling limits for wave pulse transmission and reflection operators*, Wave Motion **46** (2009), pp. 122–143.
79. J. Giorla, A. Masson, F. Poggi, R. Quach, P. Seytor, and J. Garnier, *A metamodeling approach for studying ignition target robustness in a highly dimensional parameter space*, Phys. Plasmas **16** (2009), 032704.
80. J. Garnier and K. Sølna, *A two-way paraxial system for simulation of wave backscattering by a random medium*, Journal of Computational Physics **228** (2009), pp. 3307–3325.
81. J. Garnier, A. Omrane, and Y. Rouchdy, *Asymptotic formulas for the derivatives of probability functions and their Monte Carlo estimations*, European Journal of Operational Research **198** (2009), pp. 848–858.
82. J. Garnier and G. Papanicolaou, *Passive sensor imaging using cross correlations of noisy signals in a scattering medium*, SIAM J. Imaging Sciences **2** (2009), pp. 396–437.
83. J. Garnier and K. Sølna, *Background velocity estimation with cross correlations of incoherent waves in the parabolic scaling*, Inverse Problems **25** (2009), 045005.

84. J. Garnier and K. Sølna, *Parabolic and white-noise approximations for elastic waves in random media*, Wave Motion **46** (2009), pp. 237–254.
85. J. Garnier and K. Sølna, *Paraxial coupling of electromagnetic waves in random media*, SIAM Multiscale Model. Simul. **7** (2009), pp. 1928–1955.
86. L. Borcea, T. Callaghan, J. Garnier, and G. Papanicolaou, *A universal filter for enhanced imaging with small arrays*, Inverse Problems **26** (2010), 015006.
87. J. Garnier and K. Sølna, *Effective fractional acoustic wave equations in random multiscale media*, J. Acoust. Soc. Am. **127** (2010), pp. 62–72.
88. J. Garnier and K. Sølna, *Fractional precursors in random media*, Waves in Random and Complex Media **20** (2010), pp. 122–155.
89. J. Garnier and G. Papanicolaou, *Resolution analysis for imaging with noise*, Inverse Problems **26** (2010), 074001.
90. J. Garnier and A. Picozzi, *Unified kinetic formulation of incoherent waves propagating in nonlinear media with noninstantaneous response*, Phys. Rev. A **82** (2010), 033831.
91. J. Garnier and K. Sølna, *Wave transmission through random layering with pressure release boundary conditions*, SIAM Multiscale Model. Simul. **8** (2010), pp. 912–943.
92. J. M. Dudley, C. Finot, G. Millot, J. Garnier, G. Genty, D. Agafontsev, and F. Dias, *Extreme events in optics: Challenges of the MANUREVA project*, Eur. Phys. J. Special Topics **185** (2010), pp. 125–133.
93. J. Garnier, *Imaging with ambient noise*, SIAM News **43**, issue 7, September 2010, pp. 8–9.
94. J. Garnier and K. Sølna, *Cross correlation and deconvolution of noise signals in randomly layered media*, SIAM J. Imaging Sci. **3** (2010), pp. 809–834.
95. J. Garnier, *Optimal transmission through a randomly perturbed waveguide in the localization regime*, Discrete and Continuous Dynamical Systems Series B **15** (2011), pp. 597–621.
96. H. Ammari, J. Garnier, H. Kang, W. K. Park, and K. Sølna, *Imaging schemes for perfectly conducting cracks*, SIAM J. Appl. Math. **71** (2011), pp. 68–91.
97. C. Michel, J. Garnier, P. Suret, S. Randoux, and A. Picozzi, *Kinetic description of random optical waves and anomalous thermalization of a nearly integrable wave system*, Lett. Math. Phys. **96** (2011), pp. 415–447.
98. P. Aschieri, J. Garnier, C. Michel, V. Doya, and A. Picozzi, *Condensation and thermalization of classical optical waves in a waveguide configuration*, Phys. Rev. A **83** (2011), 033838.
99. J. Garnier and K. Sølna, *Background velocity estimation by cross correlation of ambient noise signals in the radiative transport regime*, Communications in Mathematical Sciences **9** (2011), pp. 743–766.
100. J. Garnier and K. Sølna, *Filtered Kirchhoff migration of cross correlations of ambient noise signals*, Inverse Problems and Imaging **5** (2011), pp. 371–390.
101. L. Borcea, J. Garnier, G. Papanicolaou, and C. Tsogka, *Coherent interferometric imaging, time gating, and beamforming*, Inverse Problems **27** (2011), 065008.
102. H. Ammari, J. Garnier, H. Kang, H. Lee, and K. Sølna, *The mean escape time for a narrow escape problem with multiple switching gates*, SIAM Multiscale Model. Simul. **9** (2011), pp. 817–833.
103. L. Borcea, J. Garnier, G. Papanicolaou, and C. Tsogka, *Enhanced statistical stability in coherent interferometric imaging*, Inverse Problems **27** (2011), 085004.
104. J. Garnier and G. Papanicolaou, *Fluctuation theory of ambient noise imaging*, CRAS Geoscience **343** (2011), pp. 502–511.

105. M. V. de Hoop, J. Garnier, S. F. Holman, and K. Sølna, *Scattering enabled retrieval of Green's functions from remotely incident wave packets using cross correlations*, CRAS Geoscience **343** (2011), pp. 526–532.
106. A. Picozzi and J. Garnier, *Incoherent soliton turbulence in nonlocal nonlinear media*, Phys. Rev. Lett. **107** (2011), 233901.
107. M. Munoz Zuniga, J. Garnier, E. Remy, and E. de Rocquigny, *Adaptative Directional Stratification for controlled estimation of the probability of a rare event*, Reliability Engineering & System Safety **96** (2011), pp. 1691–1712.
108. J. Garnier and K. Kalimeris, *Perturbed inverse scattering theory for the Nonlinear Schrodinger equation with non-vanishing boundaries*, J. Phys. A: Math. Theor. **45** (2012), 035202.
109. H. Ammari, J. Garnier, V. Jugnon, and H. Kang, *Stability and resolution analysis for a topological derivative based imaging functional*, SIAM J. Control Opt. **50** (2012), pp. 48–76.
110. H. Ammari, J. Garnier, and K. Sølna, *A statistical approach to target detection and localization in the presence of noise*, Waves in Random and Complex Media **22** (2012), pp. 40–65.
111. H. Ammari, E. Bretin, J. Garnier, and A. Wahab, *Noise source localization in an attenuating medium*, SIAM J. Appl. Math. **72** (2012), pp. 317–336.
112. J. Garnier and K. Sølna, *Coupled wideangle wave approximations*, SIAM Multiscale Model. Simul. **10** (2012), pp. 217–244.
113. M. Munoz Zuniga, J. Garnier, E. Remy, and E. de Rocquigny, *Analysis of adaptive directional stratification for the controlled estimation of rare event probabilities*, Stat. Comput. **22** (2012), pp. 809–821.
114. H. Ammari, J. Garnier, H. Kang, M. Lim, and K. Sølna, *Multistatic imaging of extended targets*, SIAM J. Imaging Sci. **5** (2012), pp. 564–600.
115. G. Bal, J. Garnier, Y. Gu, and W. Jing, *Corrector theory for elliptic equations with long-range correlated random potential*, Asymptotic Analysis **77** (2012), pp. 123–145.
116. J. Garnier and G. Papanicolaou, *Correlation based virtual source imaging in strongly scattering media*, Inverse Problems **28** (2012), 075002.
117. B. Kibler, C. Michel, J. Garnier, and A. Picozzi, *Temporal dynamics of incoherent waves in noninstantaneous response nonlinear Kerr media*, Opt. Lett. **37** (2012), pp. 2472–2474.
118. J. Garnier, M. Lisak, and A. Picozzi, *Toward a wave turbulence formulation of statistical nonlinear optics*, J. Opt. Soc. Am. B **29** (2012), pp. 2229–2242.
119. R. Alonso, L. Borcea, and J. Garnier, *Wave propagation in waveguides with rough boundaries*, Commun. Math. Sci. **11** (2012), pp. 233–267.
120. H. Ammari, J. Garnier, and W. Jing, *Resolution and stability analysis in acousto-electric imaging*, Inverse Problems **28** (2012), 084005.
121. C. Michel, B. Kibler, J. Garnier, and A. Picozzi, *Temporal incoherent solitons supported by a defocusing nonlinearity with anomalous dispersion*, Phys. Rev. A **86** (2012), 041801(R).
122. H. Ammari, E. Bretin, J. Garnier, and V. Jugnon, *Coherent interferometry algorithms for photoacoustic imaging*, SIAM J. Numer. Anal. **50** (2012), pp. 2259–2280.
123. H. Ammari, E. Bossy, J. Garnier, and L. Seppecher, *Acousto-electromagnetic tomography*, SIAM J. Appl. Math. **72** (2012), pp. 1592–1617.
124. M. V. de Hoop, J. Garnier, and K. Sølna, *Enhanced and specular backscattering in random media*, Waves Random Complex Media **22** (2012) pp. 505–530.
125. H. Ammari, T. Boulier, and J. Garnier, *Modeling active electrolocation in weakly electric fish*, SIAM J. Imaging Sci. **6** (2013), pp. 285–321.

126. H. Ammari, E. Bossy, J. Garnier, W. Jing, and L. Seppecher, *Radiative transfer and diffusion limits for wave field correlations in locally shifted random media*, J. Math. Phys. **54** (2013), 021501.
127. F. D. Philippe, C. Prada, M. Fink, J. Garnier, and J. de Rosny, *Analysis of the time reversal operator for a scatterer undergoing small displacements*, J. Acoust. Soc. Am. **133** (2013), pp. 94–107.
128. J. Garnier, G. Papanicolaou, and T.-W. Yang, *Large deviations for a mean field model of systemic risk*, SIAM Math. Finance **4** (2013), pp. 151–184.
129. B. Barviau, J. Garnier, G. Xu, B. Kibler, G. Millot, and A. Picozzi, *Truncated thermalization of incoherent optical waves through supercontinuum generation in photonic crystal fibers*, Phys. Rev. A **87** (2013), 035803.
130. H. Ammari, J. Garnier, W. Jing, and L. H. Nguyen, *Quantitative thermo-acoustic imaging: An exact reconstruction formula*, J. Differential Equations **254** (2013), pp. 1375–1395.
131. J. Ko and J. Garnier, *Multi-element stochastic spectral projection for high quantile estimation*, J. Comput. Phys. **243** (2013), pp. 87–108.
132. J. Garnier and K. Sølna, *A multiscale approach to synthetic aperture radar in dispersive random media*, Inverse Problems **29** (2013), 054006.
133. H. Ammari, J. Garnier, and K. Sølna, *Resolution and stability analysis in full-aperture, linearized conductivity and wave imaging*, Proc. Amer. Math. Soc. **141** (2013), pp. 3431–3446.
134. H. Ammari, E. Bretin, J. Garnier, and A. Wahab, *Time reversal in visco-elastic media*, European Journal of Applied Mathematics **24** (2013), pp. 565–600.
135. H. Ammari, J. Garnier, and W. Jing, *Passive array correlation-based imaging in a random waveguide*, SIAM Multiscale Model. Simul. **11** (2013), pp. 656–681.
136. H. Ammari, T. Boulier, J. Garnier, H. Kang, and H. Wang, *Tracking of a mobile target using Generalized Polarization Tensors*, SIAM J. Imaging Sciences **6** (2013), pp. 1477–1498.
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