

Publications de Stéphane Jaffard

Revues avec comité de lecture

C. Esser, S. Jaffard *Lineability in Multifractal Analysis*, en révision favorable dans Adv. Math.

S. Jaffard, B. Martin *Multifractal analysis of the Brjuno function*, accepté pour publication dans Invent. Math.

R. Leonarduzzi, H. Wendt, P. Abry, S. Jaffard and C. Melot *Finite resolution effects in p -leader multifractal analysis* E.E.E. Trans. Signal Process., vol. 65, no. 13, pp. 3359-3368, 2017.

F. Bastin, C. Esser, S. Jaffard *Large deviation spectra based on wavelet leaders*, Revista Matematica Iberoamericana, vol. 32 n. 3 pp 859-890, 2016

p -exponent and p -Leaders - Part I: Negative pointwise regularity S. Jaffard, C. Melot, R. Leonarduzzi, H. Wendt, P. Abry, S. G. Roux, M. E. Torres, Physica A: Statistical Mechanics and its Applications, vol. 448, pp. 300-318, 2016

p -exponent and p -Leaders - Part II: Multifractal Analysis. Relations to Detrended Fluctuation Analysis R. Leonarduzzi, H. Wendt, P. Abry, S. Jaffard, C. Melot, S. G. Roux, M. E. Torres, Physica A: Statistical Mechanics and its Applications, vol. 448, pp. 319-339, 2016

P. Abry, S. G. Roux, H. Wendt, P. Messier, A. G. Klein, N. Tremblay, P. Borgnat, S. Jaffard, B. Vedel, J. Coddington, and L. Daffner *Multiscale Anisotropic Texture Analysis and Classification of Photographic Prints: Art scholarship meets image processing algorithms*, IEEE Signal Processing Magazine vol. 32, no. 4, pp. 18-27, July 2015

P. Abry, M. Clausel, S. Jaffard, S. G. Roux and B. Vedel *Hyperbolic wavelet transform: an efficient tool for multifractal analysis of anisotropic textures* Revista Matematica Iberoamericana, Vol. 31 N. 1 pp. 313-348, 2015

Paul Messier, C. Richard Johnson, William A. Sethares, Andrew G. Klein , Christopher Brown, Anh Hoang Do, Philip Klausmeyer, Patrice Abry, Stéphane Jaffard, Herwig Wendt, Stephane Roux, Nelly Pustelnik, Nanne van Noord, Laurens van der Maaten, Eric Postma, James Coddington , Lee Ann Daffner, Hanako Murata, Henry Wilhelm, Sally Wood, Mark Messier, *Pursuing automated classification of historic photographic papers from raking light photomicrographs* Journal of the American Institute for Conservation, vol. 53, no. 3, pp. 159-170, 2014.

S.G. Roux, M. Clausel, B. Vedel, S. Jaffard, P. Abry, *Self-Similar Anisotropic Texture Analysis: the Hyperbolic Wavelet Transform Contribution* IEEE Trans. on Image Proc., 22 (11):pp. 4353–4363, 2013.

G. Didier, S. Jaffard; V. Pipiras *On the vaguelet and Riesz properties of L^2 -unbounded transformations of orthogonal wavelet bases* Journal of Approximation Theory Volume 176, pp. 94–117, 2013.

P. Abry, H. Wendt, S. Jaffard, *When Van Gogh meets Mandelbrot: Multifractal Classification of Painting's Texture* Signal Processing Vol 93 n. 3 pp. 554-572, mars 2013.

A. Durand, S. Jaffard: *Multifractal analysis of Lévy fields*, Probability Theory and Related Fields Vol. 153 pp. 45–96 (2012)

J. Barral, N. Fournier, S. Jaffard, S. Seuret, *A Markov process with a random singularity spectrum*, Annals of Probability Vol. 38 N. 5. pp. 1924-1946, 2010.

S. Jaffard, *Pointwise and directional regularity of nonharmonic Fourier series* Appl. Comp. Harmonic Analysis Vol 28 N. 3 pp. 251-266, 2010.

S. Jaffard, S. Nicolay, *Pointwise smoothness of space-filling functions* Appl. Comp. Harmonic Analysis Vol 26 N. 2 pp. 181-199, 2010.

A. Ayache, S. Jaffard, *Hölder exponents of arbitrary functions* Revista Matematica Iberoamericana, Vol 26 N. 1 pp. 77-89, 2010.

H. Wendt, P. Abry, S. G. Roux, S. Jaffard et B. Vedel, *Analyse multifractale d'image: l'apport des coefficients dominants*, Traitement du Signal: Vol 25 N. 4-5 , 2009.

H. Wendt, S. G. Roux S. Jaffard, P. Abry, *Wavelet Leaders and Bootstrap for Multifractal Analysis of Images*, Signal Processing. Vol 89 n. 6 pp. 1100–1114 , Juin 2009.

B. Lashermes, S. G. Roux S. Jaffard, et P. Abry, *Comprehensive multifractal analysis of turbulent velocity using wavelet leaders* Eur. Phys. J. B. Vol. 61 (2) pp. 201–215, 2008.

J.-M. Aubry, F. Bastin S. Dispa, S. Jaffard, *The spaces S^ν : New spaces defined with wavelet coefficients and related to multifractal analysis*, International Journal of applied analysis & statistics, Vol. 7, 2007.

A. Ayache S. Jaffard, M. Taqqu, *Multifractal processes with a most general multifractal spectrum*, Revista Matematica Iberoamericana, Vol. 23 pp. 327–370, 2007.

H. Wendt P. Abry, S. Jaffard, *Bootstrap for empirical multifractal analysis with application to hydrodynamic turbulence*, IEEE Signal Processing Mag., vol. 24, no. 4, pp. 38–48, 2007.

J.-M. Aubry, F. Bastin S. Dispa, S. Jaffard, *The topology of the spaces S^ν* , Journal of Mathematical Analysis and Applications, Vol. 321, pp. 364–387, 2006.

S. Jaffard, *Wavelet Techniques for pointwise regularity*, Annales de la Faculté des Sciences de Toulouse, Vol. 15 n. 1 pp. 3–33 (2006)

A. Fraysse, S. Jaffard, *How smooth is almost every function in a Sobolev space?* Revista Matematica Iberoamericana Vol. 22, N. 2 pp. 663–682 (2006)

A. Fraysse, S. Jaffard, *The Sobolev embeddings are usually sharp*, Abstract and Applied Analysis Vol. 2005 n. 4 pp. 437–448 (2005)

S. Jaffard, C. Melot *Wavelet analysis of fractal Boundaries, Part 1: Local regularity*, Communications in Mathematical Physics, Vol. 258 n. 3 pp. 513–539 (2005)

S. Jaffard, C. Melot *Wavelet analysis of fractal Boundaries, Part 2: Multifractal formalism*, Communications in Mathematical Physics, Vol. 258 n. 3 pp. 541–565 (2005)

S. Jaffard, *Beyond Besov Spaces part 2: Oscillation spaces*, Constructive Approximation, Vol 21 n. 1 pp. 29–61 (2005)

S. Jaffard, *Multifractal functions: Recent advances and open problems*, Bulletin de la Société Royale des Sciences de Liège, Vol. 73 pp. 129–153 (2004)

S. Jaffard, *Beyond Besov Spaces Part 1: Distributions of wavelet coefficients*, The Journal of Fourier Analysis and its Applications, Vol 10, n. 3 pp. 221–246 (2004)

- J.-M. Aubry, S. Jaffard, *Random wavelet series*, Communications in Mathematical Physics, Vol. 227, pp. 483–514 (2002)
- S. Jaffard, S. Micu, *Estimates of the constants in generalized Ingham's inequality and applications to the control of the wave equation* Asymptotic Analysis Vol. 28, No.3-4, pp. 181–214 (2001).
- S. Jaffard, *Construction of functions with prescribed Hölder and Chirps exponents*, Revista Matemática Iberoamericana Vol. 16 n. 2 pp. 331–349 (2000)
- S. Jaffard, Y. Meyer, *On the pointwise regularity of functions in critical Besov Spaces* Journal of Functional analysis Vol. 175 pp. 415–434 (2000)
- S. Jaffard, *On the Frisch-Parisi conjecture*, Journal de Mathématiques Pures et Appliquées, Vol. 79 n. 6 pp. 525–552 (2000)
- S. Jaffard, *Lacunary wavelet series*, Annals of Applied Probability. Vol. 10, No. 1, pp. 313–329 (2000)
- S. Jaffard, *The multifractal nature of Lévy processes*, Probability Theory and Related Fields, Vol. 114 N.2 pp.207–227 (1999)
- S. Jaffard, *Analysis of the lack of compactness in the critical Sobolev imbeddings*, Journal of Functional Analysis, Vol. 161, pp. 384–396 (1999)
- S. Jaffard, *Oscillation Spaces: Properties and applications to fractal and multifractal functions*, Journal of Mathematical Physics Vol. 39 N. 8 pp. 4129–4141 (1998)
- B. Guiheneuf S. Jaffard, J. Lévy-Véhel, *Two results concerning Chirps and 2-microlocal exponents prescription*, Applied and Computational Harmonic Analysis, Vol. 5 N. 4 pp. 487–492 (1998)
- A. Benassi, S. Cohen, J. Istas, S. Jaffard, *Identification of filtered white noises* Stochastic Processes and their Applications, Vol. 75 pp. 31–49 (1998)
- S. Jaffard, M. Tucsnak et E. Zuazua, *Singular internal stabilization of the wave equation*, Journal of Differential Equations Vol.145 N. 1 pp. 184–215 (1998)
- A. Arneodo, E. Bacry, J.-F. Muzy, S. Jaffard, *Singularity spectrum of multifractal functions involving oscillating singularities*, Journal of Fourier Analysis and Applications,

Vol. 4, N. 2 p. 159–174 (1998)

S. Jaffard, R. Young, *A representation theorem for Schauder bases in Hilbert space*, Proceedings of the AMS, Vol. 126 N. 2 pp. 553–560 (1998)

S. Jaffard, M. Tucsnak, *Regularity of plate equations with control concentrated in interior curves*, Proceedings of the Royal Society of Edinburgh, Sect. A Vol. 127, n. 5 pp. 1005–1025 (1997)

A. Arneodo, E. Bacry et J.-F. Muzy, S. Jaffard, *Oscillating singularities on Cantor sets: a grand canonical multifractal formalism*, Journal of Statistical Physics Vol. 87 pp. 179–209 (1997)

S. Jaffard, M. Tucsnak et E. Zuazua, *On a Theorem of Ingham*, Journal of Fourier Analysis and Applications Vol. 3 N. 5 pp. 577–582 (1997)

S. Jaffard, *Multifractal formalism for functions, Part 1: Results valid for all functions*, S.I.A.M. Journal of Mathematical Analysis Vol. 28 N. 4 pp. 944–970 (1997)

S. Jaffard, *Multifractal formalism for functions, Part 2: Selfsimilar functions*, S.I.A.M. Journal of Mathematical Analysis Vol. 28 N. 4 pp. 971–998 (1997)

S. Jaffard, *Old friends revisited: the multifractal nature of some classical functions*, Journal of Fourier Analysis and Applications. Vol. 3 N. 1 p. 1–22 (1997)

A. Benassi, S. Jaffard, D. Roux, *Elliptic Gaussian Random Processes*, Revista Mathematica Iberoamericana Vol. 13 N. 1 pp. 19–90 (1997)

P. Degond, S. Jaffard, F. Poupaud, P.-A. Raviart *The Child-Langmuir Asymptotics of the Vlasov-Poisson Equation for cylindrically or spherically symmetric diodes, Part 1: Statement of the problem and basic estimates*, Mathematical Methods in the Applied Sciences Vol. 19 p. 287–312 (1996)

P. Degond, S. Jaffard, F. Poupaud, P.-A. Raviart *The Child-Langmuir Asymptotics of the Vlasov-Poisson Equation for cylindrically or spherically symmetric diodes, Part 2: Analysis of the reduced problem and determination of the Child-Langmuir current*, Mathematical Methods in the Applied Sciences Vol. 19 p. 313–340 (1996)

S. Jaffard, Y. Meyer, *Wavelet Methods for Pointwise Regularity and Local Oscillations of Functions*, Memoirs of the A.M.S. Vol. 123 N. 587 (1996)

- S. Jaffard, *The spectrum of singularities of Riemann's function*, Revista Mathematica Iberoamericana Vol. 12 N. 2 p. 441–460 (1996)
- S. Jaffard, B. Mandelbrot, *Local regularity of nonsmooth wavelet expansions and application to Polya's function*, Advances in Mathematics Vol. 120 N. 2 pp. 265–282 (1996).
- S. Jaffard, *Functions with prescribed Hölder exponent*, Applied and Computational Harmonic Analysis, Vol. 2, pp. 400–401 (1995)
- S. Jaffard, *Analyse par ondelettes d'un problème elliptique singulier*, Journal de Mathématiques pures et appliquées, Vol. 72 pp. 121–143 (1993)
- A. Benassi, S. Jaffard, D. Roux *Analyse multi-échelle des Processus gaussiens markoviens d'ordre p indexés par $(0, 1)$ (en collaboration avec)*. Stochastic Processes and their Applications. Vol. 47 pp. 275–297 (1993)
- S. Jaffard, *Wavelet methods for fast resolution of elliptic problems*, S.I.A.M. Journal of Numerical Analysis Vol. 29 N. 4, pp. 965–986 (1992)
- A. Haraux, S. Jaffard, *Pointwise and spectral control of some plate models*, Revista Mathematica Iberoamericana Vol. 7 pp. 1–24 (1991).
- S. Jaffard, *A density criterion for frames of complex exponentials*, Michigan Mathematical Journal, Vol. 38 pp. 339–348 (1991)
- I. Daubechies, S. Jaffard, J.-L. Journé *A simple Wilson orthonormal basis with exponential decay*, S.I.A.M. Journal of Mathematical Analysis Vol. 22, pp. 554–572 (1991)
- S. Jaffard, *Propriétés des matrices "bien localisées" près de leur diagonale et quelques applications*, Annales de l'Institut Henri Poincaré, Analyse non linéaire, Vol. 7 pp. 461–476 (1990)
- S. Jaffard, *Contrôle interne exact des vibrations d'une plaque rectangulaire*, Portugaliae Mathematicae Vol. 47 p. 423-429 (1990)
- S. Jaffard, Y. Meyer, *Bases d'ondelettes dans des ouverts de R^n* , Journal de Mathématiques pures et appliquées Vol. 68, pp. 95–108 (1989)

Articles soumis pour publication

I. Scala, G. Rosi, V.-H. Nguyen, R. Vayron, G. Haiat, S. Seuret, S. Jaffard, S. Naili *Ultrasonic characterization and multiscale analysis for the evaluation of dental implant stability: a sensitivity study*

P. Abry, S. Jaffard, R. Leonarduzzi, S. Roux, S. Seuret, H. Wendt *Multivariate multifractal analysis*

C. Esser, S. Jaffard *Divergence of wavelet series: A multifractal analysis*

Livres

S. Jaffard, Y. Meyer, R. Ryan, *Wavelets: Tools for Science and Technology*, SIAM (2001)

Edition d'ouvrages:

B. Mandelbrot, père de la géométrie fractale (S. Jaffard, et S. Seuret Eds.) SMF, 2013

New Trends in Applied Harmonic Analysis (A. Aldroubi, C. Cabrelli, S. Jaffard, U. Molter Eds.) Applied and Numerical Harmonic Analysis, Springer, 2016.

Articles de vulgarisation

S. Jaffard *Yves Meyer, Prix Abel 2017* Gazette des Mathématiciens, juillet 2017

S. Jaffard *Yves Meyer* Encyclopedia Britannica, 2017

E. Chassande-Mottin, S. Jaffard, Y. Meyer *Des ondelettes pour détecter les ondes gravitationnelles* Gazette des Mathématiciens, avril 2016

M. Barnsley, R. Howe, I. Stewart, D. Mumford, H. Furstenberg, K. Falconer, B. West, M.-O. Coppens, N. Cohen, S. Jaffard, M. Berry, M. Frame, *The influence of Benoît Mandelbrot on mathematics* Notices of the AMS Vol. 59 n. 9 pp. 1208–1221 M. Barnsley, M. Frame Eds. (Oct. 2012)

J.-F. Colonna et S. Jaffard *Un “grand pontife” des sciences* La Jaune et la Rouge Avril 2011 pp. 38-39

A. Arneodo, S. Jaffard, *L'analyse multifractale des signaux*, “Images des Mathématiques 2004”, CNRS pp. 7–14 (2004)

S. Jaffard, B. Mandelbrot, *Peano-Polya motion, when time is intrinsic or binomial (uniform or multifractal)*, The Mathematical Intelligencer, Vol.19 N.4 pp.21–26 (1997)

J. Bertoin, S. Jaffard, *Solutions multifractales de l'équation de Burgers*, Matapli N.52 pp.19–28 (oct. 1997)

M. Farge, S. Jaffard, *Les ondelette*, Science au présent, Encyclopedia Universalis pp. 189–190 (1992)

S. Jaffard, *Des ondelettes pour assagir la turbulence*, L'état des sciences et des techniques, Editions La Découverte pp. 339–341 (1991)

S. Jaffard, Y. Meyer, O. Rioul, *L'analyse par ondelettes*, Pour la Science Vol.119 (sept.1987)

Chapitres invités dans des ouvrages de synthèse (avec comité de lecture)

P. Abry, S. Jaffard, R. Leonarduzzi, C. Melot, H. Wendt, *New exponents for point-wise singularity classification*, in Proc. Fractals and Related Fields III, 19-26 September 2015, Porquerolles, France, S. Seuret and J. Barral, Eds., 2017

S. Jaffard, P. Abry, C. Melot, R. Leonarduzzi, H. Wendt *Multifractal analysis based on p -exponents and lacunarity exponents* Fractal Geometry and Stochastics V, Birkhäuser, V, C. Bandt et al., Eds., Progress in Probability Vol. 70, pp. 279–313 (2015)

P. Abry, S. Jaffard, H. Wendt, *Irregularities and scaling in signal and Image processing: Multifractal analysis*, “Benoit Mandelbrot: A Life in Many Dimensions” World Scientific M. Frame Ed., pp. 31–116 (2015)

P. Abry, S. Jaffard, H. Wendt, *A bridge between geometric measure theory and signal processing: Multifractal analysis* Operator-related function theory and time-frequency analysis, Proceedings of the Abel Symposium 2012, Oslo pp. 1–56 Springer (2015)

A. Durand, S. Jaffard: *Multivariate Davenport series*, “Further Developments in Fractals and Related Fields” J. Barral and S. Seuret Eds., Springer pp. 63-113 (2013)

- S. Jaffard, P. Abry, S. G. Roux, *Function spaces vs. scaling functions : Tools for image classification*, “Mathematical Image processing”, M. Bergounioux Ed., Springer proceedings in Math. Vol 5, pp. 1–40 (2011)
- S. Jaffard, *Quelques interactions entre analyse, probabilités et fractals* “Panoramas et Synthèses” (2011) pp. 1–55
- S. Jaffard, *An introduction to Davenport series* Spring School in Analysis in Paseky, J. Lukes, J. Vesely eds. Matfyzpress, Univerzity Karlovy V Praze pp. 41–95 (2010)
- B. Vedel, H. Wendt, P. Abry, S. Jaffard, *On the impact of the number of vanishing moments on the dependence structures of compound Poisson motion and fractional Brownian motion in multifractal time*, “Dependance with applications in Statistics and econometrics”, P. Doukhan, G. Lang, D. Surgailis, G. Teyssi ere Eds. Lecture Notes in Statistics pp. 71–102, (2010)
- S. Jaffard, S. Nicolay, *Space-filling functions and Davenport series* “Surveys in Fractals and related fields”, Birkhauser J. Barral et S. Seuret Eds. pp. 19–34 (2010)
- S. Jaffard, P. Abry, S. G. Roux, B. Vedel, H. Wendt, *The contribution of wavelets in multifractal analysis*, “Wavelet methods in Mathematical Analysis and Engineering, Higher Education Press, “Series in Contemporary Applied Mathematics”, CAM 14, pp. 51–98 (2010)
- P. Abry S. Jaffard, B. Lashermes *Wavelet leaders in multifractal analysis*, “Wavelet Analysis and Applications”, T. Qian et al. eds., pp. 201–246 “Applied and Numerical Harmonic Analysis”, Springer (2006)
- S. Jaffard, *On Davenport expansions*, Fractal Geometry and Applications: A Jubilee of Benoit Mandelbrot, M. Lapidus et M. van Frankenhuysen Eds., Proceedings of Symposia in Pure Mathematics (AMS) Vol. 72 Part 1, pp. 273–303 (2004)
- S. Jaffard, *Wavelet techniques in multifractal analysis*, Fractal Geometry and Applications: A Jubilee of Benoit Mandelbrot, M. Lapidus et M. van Frankenhuysen Eds., Proceedings of Symposia in Pure Mathematics (AMS) Vol. 72 Part 2, pp. 91–151 (2004)
- S. Jaffard, *Function spaces based on wavelet expansions*, Sampling, Wavelets and Tomography, J. Benedetto and A. Zayed eds., Birkh user pp. 157–177 (2004)
- S. Jaffard, *M ethodes d’ondelettes pour l’analyse multifractale de fonctions*, “Lois d’ chelles et Fractales” Vol. 1. Eds: P. Abry, P. Goncalves et J. L vy-V hel, pp. 71–105 (2002)

S. Jaffard, *Décompositions en ondelettes* “Developments of Mathematics 1950-2000” (J-P. Pier Ed.) Birkhauser, p. 609-634 (2000)

S. Jaffard, *Some Mathematical Results concerning the Multifractal Formalism for Functions*, Wavelets Theory, Algorithms and Applications, C. Chui, L. Montefusco and L. Puccio Eds., Academic Press, pp. 325–362 (1994)

A. Benassi, S. Jaffard, *Wavelet decomposition of one and several dimensional Gaussian processes*, Recent advances in wavelet analysis. L. Schumaker and G. Webb ed. Academic Press (1994)

S. Jaffard, *Wavelets and nonlinear analysis*, Wavelets: Mathematics and applications J. Benedetto and M. Frazier Eds., Studies in Advanced Mathematics, CRC (1994)

S. Jaffard, Ph. Laurençot *Orthonormal wavelets, analysis of operators and applications to numerical analysis*, Wavelets: A tutorial, C.Chui Ed. Academic Press (1991)

Notes au compte-rendus de l’Académie des Sciences

A. Fraysse S. Jaffard, J.-P. Kahane *Some generic properties in analysis*, C.R.A.S. Vol. 340 Série 1, pp. 645–651 (2005)

S. Jaffard, *Pointwise regularity criteria*, C.R.A.S. Vol. 339 Série 1, pp. 757–762 (2004)

S. Jaffard, *Conjecture de Frisch et Parisi et généricité des fonctions multifractales*, C.R.A.S. Vol. 330 Série 1, pp. 265–270 (2000)

S. Jaffard, *Sur la dimension de boîte des graphes*, C.R.A.S. Vol. 326 Série 1, pp. 555–560 (1998)

S. Jaffard, *Sur la nature multifractale des processus de Lévy*, C.R.A.S. Vol. 323 Série 1, pp. 1059–1064 (1996)

S. Jaffard, *Théorèmes de trace et dimensions négatives*, C.R.A.S. Vol. 320 Série 1, pp. 409–413 (1995)

A. Benassi S. Jaffard, S. Cohen, *Identification de processus gaussiens elliptiques*, C.R.A.S.

Vol. 319 Série 1, pp. 877–880 (1994)

S. Jaffard, *Formalisme Multifractal pour les fonctions*. C.R.A.S. Vol. 315 Série 1, pp. 441–466 (1993)

A. Benassi, S. Jaffard, D. Roux, *Module de continuité des champs aléatoires gaussiens étudiés au moyen d'ondelettes appropriées*, C.R.A.S. Vol. 317 Série 1, pp. 745–750 (1992)

S. Jaffard, *Construction de fonctions multifractales ayant un spectre de singularités prescrit*, C.R.A.S. Vol. 315 Série 1, pp. 19–24 (1992)

S. Jaffard, *Sur la dimension de Hausdorff des points singuliers d'une fonction*, C.R.A.S. Vol. 314 Série 1, pp. 31–36 (1992)

A. Benassi S. Jaffard, D. Roux, *Analyse multiéchelle des champs gaussiens markoviens d'ordre p indexés par $[0, 1]$* , C.R.A.S. Vol. 313 Série 1, pp. 403–406 (1991)

S. Jaffard, *Exposants de Hölder en des points donnés et coefficients d'ondelettes*, C.R.A.S. Vol. 308 Série 1, pp. 79–81 (1989)

S. Jaffard, *Contrôle interne exact des vibrations d'une plaque carré*, C.R.A.S. Vol. 307 Série 1, pp. 759–762 (1988)

Proceedings

I. Scala, G. Rosi, V.H. Nguyen, S. Naili, R. Vayron, G. Haiat, S. Seuret et S. Jaffard, *Evaluation of dental implant stability using ultrasonic characterization and multifractal analysis*, Congrès Français de Mécanique, aout 2017

R. Leonarduzzi, P. Abry, S. Jaffard, H. Wendt, L. Gournay, T. Kyriacopoulou, C. Martineau, C. Martinez, *p -Leader Multifractal Analysis for Text Type Identification*, IEEE Int. Conf. Acoust., Speech, and Signal Proces. (ICASSP), New Orleans, USA, March 2017.

S. G. Roux, P. Abry, B. Vedel, S. Jaffard, H. Wendt, *Hyperbolic wavelet leaders for anisotropic multifractal texture analysis* IEEE Int. Conf. Image Proces. (ICIP), Phoenix, AZ, USA, Sept. 2016

P. Abry, A. G. Klein, P. Messier, S. Roux, M.H. Ellis, W.A. Sethares, D. Picard, Y. Zhai, D.L. Neuhoff, H. Wendt, S. Jaffard, C.R. Johnson Jr., *Wave Paper Analysis through Texture Similarities*, Proc. IEEE Asilomar Conf. Signals, Systems and Computers, Pacific Grove, USA, Nov. 2016.

R. Leonarduzzi, H. Touchette, H. Wendt, P. Abry, S. Jaffard *Generalized Legendre Transform Multifractal Formalism for Nonconcave Spectrum Estimation* 2016 IEEE Statistical Signal Processing Workshop (SSP), Palma de Mallorca, June 26-29, 2016

G. Rosi, I. Scala, V.H. Nguyen, S. Naili, R. Vayron, G. Haiat, H. Yahia, S. Seuret et S. Jaffard, *Caractérisation de la Réponse Ultrasonore d'Implant Dentaire : Simulation Numérique et Analyse des Signaux* CFA Vishno 2016

R. Leonarduzzi, H. Wendt, S. Jaffard, P. Abry, *Pitfall in Multifractal Analysis of Negative Regularity*, GRETSI Symposium Signal and Image Processing, Lyon, France, Sept. 2015

R. Leonarduzzi, J. Spilka, J. Frecon, H. Wendt, N. Pustelnik, S. Jaffard, P. Abry, M. Doret, *p-leader Multifractal Analysis and Sparse SVM for Intrapartum Fetal Acidosis Detection*, Proc. 37th International IEEE EMBS Conference, Milano, Italy, Aug. 2015

S. Roux, P. Abry, H. Wendt, S. Jaffard, *Hyperbolic Wavelet Transform for Historic Photographic Paper Classification Challenge* Proc. IEEE Asilomar Conf. Signals, Systems and Computers, Pacific Grove, USA, Nov. 2014

R. Leonarduzzi, J. Spilka, H. Wendt, S. Jaffard, M. E. Torres, P. Abry, M. Doret, *p-leader based classification of first stage intrapartum fetal HRV*, VI Latin American Congress on Biomedical Engineering (CLAIB) 2014, Paraná, Argentina, Oct. 2014, IFMBE Proceedings Vol. 49, 2015, pp. 504-507

R. Leonarduzzi, H. Wendt, S. Jaffard, S.G. Roux, M.E. Torres, P. Abry, *Extending multifractal analysis to negative regularity: p-exponents and p-leaders* IEEE Int. Conf. Acoust., Speech, and Signal Proces. (ICASSP), Florence, Italy, May 2014

P. Messier, C. R. Johnson, H. Wilhelm, W. A. Sethares, A. G. Klein, P. Abry, S. Jaffard, H. Wendt, S. Roux, N. Pustelnik, N. van Noord, L. van der Maaten, and E. Postma, *Automated surface texture classification of inkjet and photographic media*, Society for Imaging Science and Technology (IS & T), 29th International Conference on Digital Printing Technologies/Digital Fabrication, Seattle, WA, Sep 29-Oct 3, 2013.

J. Barral, A. Durand, S. Jaffard, S. Seuret, *Local multifractal analysis* “Applications of Fractals and Dynamical Systems in Science and Economics”, AMS, Contemporary Mathematics, edited by D. Carfi, M. L. Lapidus, E. J. Pearse, and M. van Frankenhuijzen (2013)

H. Wendt, S. Jaffard, P. Abry, ”Multifractal Analysis of Self-Similar Processes,” IEEE Workshop Statistical Signal Proces. (SSP), Ann Arbor, USA, 2012

P. Abry, S. Jaffard, H. Wendt, ”Bruegel’s drawings under the multifractal microscope,” IEEE Int. Conf. Acoust., Speech, and Signal Proces. (ICASSP), Kyoto, Japan, 2012

S.G. Roux, M. Clausel, B. Vedel, S. Jaffard, P. Abry *Transformée hyperbolique en ondelettes 2D pour la caractérisation d’images autosimilaires anisotropes* GRETSI 2011

Abry Patrice, S.G. Roux and S. Jaffard. ”Detecting Oscillating Singularities in Multifractal Analysis : Application to Hydrodynamic Turbulence.” In proceedings of the IEEE International Conference On Acoustics, Speech, And Signal Processing, Prague, Czech Republic, 2011

S. Jaffard, M. Okada, T. Ueno, *Approximate sampling theorem and the order of smoothness of the Besov space* RIMS Kôkyûroko Bessatsu B18 pp. 45-56 (2010)

P. Abry, H. Wendt, S. Jaffard, H. Helgason, P Goncalvès, E. Pereira, Cl. Gharib, P. Gaucherand, M. Doret, *Methodology for multifractal analysis of heart rate variability: From LF/HF ratio to wavelet leaders*, Nonlinear Dynamic Analysis of Biomedical Signals, EMBC conference (IEEE Engineering in Medicine and Biology Conferences), Buenos Aires, (2010)

H. Wendt, P. Abry, S. Jaffard, Hui Ji, Zuowei Shen, ”Wavelet Leader Multifractal Analysis for Texture Classification,” IEEE Int. Conf. Image Proces. (ICIP), Cairo, Egypt, 2009

S.Jaffard, P. Abry, S. G. Roux, *Singularités oscillantes et coefficients d’ondelette dominants*, 22nd GRETSI Symposium on Signal and Image Processing, Dijon, France, (sept 2009)

P. Abry, S. Jaffard, S. G. Roux, B. Vedel et H. Wendt, *Wavelet decomposition of measures: Application to multifractal analysis of images*, Proc. NATO-ASI Conf. on Unexploded Ordnance Detection and Mitigation, Springer, pp. 1–20 (2008).

H. Wendt, S. G. Roux, S. Jaffard, P. Abry, *Bootstrapped wavelet leaders for multifractal analysis of images*, IEEE Transactions on image processing (2007)

- P. Abry, H. Wendt, S. Jaffard, *Analyse multifractale d'image: l'apport des coefficients dominants*, 21st GRETSI Symposium on Signal and Image Processing, Troyes, France (2007)
- S. Jaffard, *Gabor-wavelet transform and Hölder irregularity*, proceedings of the HAAT conference, Tokyo (2007)
- Y. Heurteaux, S. Jaffard, *Multifractal analysis of images: New connexions between analysis and geometry*, Proceedings of the NATO-ASI Conference on Imaging for Detection and Identification, Springer pp. 169–194 (2007)
- S. Jaffard, *Pointwise regularity associated with function spaces and multifractal analysis*, Banach Center Pub. Vol. 72 Approximation and Probability, T. Figiel and A. Kamont Eds. pp. 93–110 (2006)
- S. G. Roux, B. Lashermes, P. Abry, S. Jaffard, *Contribution à l'étude des performances statistiques des estimateurs multifractals*, XXIème Colloque GRETSI 2005 Louvain-La-Neuve, Belgique (2005)
- P. Abry, B. Lashermes, S. Jaffard, *Wavelet leader based multifractal analysis*, Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing Philadelphia, USA, (2005)
- P. Abry, B. Lashermes, S. Jaffard, *Revisiting scaling, multifractal and multiplicative cascades with the wavelet leader lens*, *SPIE Optic East, Wavelet applications in Industrial applications II* Vol. 5607 pp. 103–117 Philadelphia, USA (2004)
- A. Almansa, B. Rougé, S. Jaffard, *Irregular sampling in satellite images and reconstruction algorithms*, Proceedings du congrès CANUM 2003, (2003)
- A. Almansa, S. Jaffard, B. Rougé, *Perturbed sampling in satellite images and reconstruction algorithms*, Proceedings du congrès GRETSI 2001, Signal and Image processing (2001)
- S. Jaffard, *Nouveaux espaces fonctionnels et application à l'étude des fonctions fractales et multifractales*, Proceedings du colloque SMT 99 de la Société mathématique de Tunisie (2000)
- A. Arneodo, E. Bacry S. Jaffard, J-F. Muzy, *Oscillating singularities and multifractal functions*, C.R.M. Proceedings and Lecture Notes Vol. 18 pp. 315–329 (1999)

- A. Benassi, S. Cohen S. Jaffard, J. Istas, *Identification of filtered white noises and of elliptic gaussian random processes*, Fractals in Engineering, J. Lévy-Vehel, E. Lutton and C. Tricot Eds., Springer pp.115–123 (1997)
- S. Jaffard, *Some open problems about multifractal functions*, Fractals in Engineering, pp.2–18 J. Lévy-Vehel, E. Lutton and C. Tricot Eds. Springer (1997)
- S. Jaffard, *Trees in the Time-Scale Domain*, Proceeding du colloque “Arbres”, Progress in Probability, Vol.40 pp.15–24 Birkhäuser (1996)
- A. Benassi S. Jaffard, D. Roux, *Gaussian Elliptic Processes*, Israel Mathematical Conference Proceedings, Vol.10 pp. 35–48 (1996)
- S. Jaffard, *Wavelet Analysis of Multifractal Functions*, Wavelet Applications in Signal and Image Processing, SPIE Juillet 1995, San Diego pp. 284–293 (1995)
- S. Jaffard, *Sur les fonctions autosimilaires*, The Journal of Fourier Analysis and its applications, Special Issue, Proceedings of the conference in honor of Jean-Pierre Kahane pp. 249–270 (1995)
- S. Mimouni, G. Laval, B. Scheurer, S. Jaffard, *Morphology of the mixing layer in the Raleigh-Taylor instability*, Small scale structures in three-dimensional hydrodynamics and magnetohydrodynamic turbulence, M. Meneguzzi et al. Eds., Springer, Lect. Notes in Phys. Vol. 462 pp. 179–192 (1995)
- S. Jaffard, *Local behavior of Riemann’s function*, Harmonic Analysis and Operator Theory, Contemporary Mathematics, Proceedings of the Cotlar Conference, Caracas (1994)
- S. Jaffard, *Wavelets and Analysis of Partial Differential Equations*, Nonlinear PDEs and their applications, Collège de France Seminar Vol. 11, Pitman Research Notes in Mathematics Series, Vol. 299, H Brezis , J.-L. Lions Ed, pp. 118–130 (1994)
- S. Jaffard, *Regularity analysis of functions and random processes using wavelets*, Proceedings of the NATO-ASI Conference held at Il Ciocco (1992)
- S. Jaffard, *Pointwise regularity of functions and wavelet coefficients*, Wavelets and Applications, Y. Meyer Ed. Masson, RMA n. 20 (1992)
- I. Daubechies S. Jaffard, J.-L. Journé, *A simple Wilson basis with exponential decay, or how to beat the Balian-Low Theorem*, “Wavelets and Applications”, Y. Meyer Ed.

Masson, RMA n. 20 (1992)

S. Jaffard, *Wavelets and applications*, Proceedings of the fifth European Conference on mathematics in Industry Teubner Stuttgart and Kluwer Academic publishers (1991)

S. Jaffard, *Pointwise smoothness, two-microlocalisation and wavelet coefficients*, Publications Mathématiques, Vol. 35 S. Jaffard Pointwise smoothness, two-microlocalization and wavelet coefficients pp. 155 –168 (1991)

S. Jaffard, *Orthonormal and continuous wavelet Transform: Algorithms and applications to the study of pointwise properties of functions* Proceedings du congrès Wavelets, Fractals and Fourier transforms, Cambridge (1990)

S. Jaffard, *Algorithmes de transformation en ondelettes*, Annales des Ponts et Chaussées, 3^etrim. (1989)

S. Jaffard, Y. Meyer, *Les ondelettes*, Harmonic analysis and Partial Differential Equations, Proceedings, El Escorial 1987, Lecture notes in mathematics, Vol. 1384, pp. 182–192, Springer-Verlag (1989)

Articles concernant la politique scientifique

A. Bonami, S. Jaffard, *Les mathématiques à l'épreuve de "l'excellence"* Esprit, pp. 30–40, juillet 2012

S. Jaffard, M. Leduc, *Les classes prépas détournent-elles les meilleurs étudiants de leur vocation?* VRS N. 381 avril/mai/juin 2010

S. Jaffard, M. Leduc, *La bonne méthode d'évaluation des chercheurs*, Les Echos, 23 Juillet 2009

S. Jaffard, M. Leduc et J.-C. Bernier, *CNRS : démantèlement ou modernisation ?* Le Monde, 11 Juin 2008

M. Leduc S. Jaffard, J.-C. Bernier, *Reform, yes...but not like this*, Research Europe, 13 mars 2008

S. Jaffard, M. Leduc et J.-C. Bernier *Les bonnes intentions du rapport Attali en matière de recherche*, Le Figaro, 11 février 2008

S. Jaffard, M. Leduc et A. Lattes *La loi sur l'Université: menace ou chance?* Le Monde, 20 novembre 2007

Textes sur le site web “Images des Mathématiques”

Remise du prix Abel 2017 à Yves Meyer , 22 mai 2017

<http://images.math.cnrs.fr/Remise-du-Prix-Abel-2017-a-Yves-Meyer.html>

Les Sociétés Savantes face aux réformes, 25 janvier 2009

<http://images.math.cnrs.fr/Les-Societes-Savantes-face-aux.html>

Un mikado subtil, 13 mars 2009

<http://images.math.cnrs.fr/Un-mikado-subtil.html>

Maths à venir : les discours d'ouverture 14 décembre 2009

<http://images.math.cnrs.fr/Maths-a-venir-les-discours-d.html>

Pourquoi un nouveau colloque ”Maths à Venir” ? Le 23 juillet 2009

<http://images.math.cnrs.fr/Pourquoi-un-nouveau-colloque-Maths.html>

Yves Meyer lauréat 2010 du prix Gauss, 22 août 2010

<http://images.math.cnrs.fr/Yves-Meyer-laureat-2010-du-prix.html>

Un colloque à la mémoire de Benoît Mandelbrot 31 janvier 2011

<http://images.math.cnrs.fr/Un-colloque-a-la-memoire-de-Benoit.html>

Parcours de Mathématiciens 8 février 2011

<http://images.math.cnrs.fr/Parcours-de-Mathematiciens.html>

Les mathématiques comme thérapie ? 26 novembre 2011

<http://images.math.cnrs.fr/Les-mathematiques-comme-therapie.html>

Arts et Mathématiques : de nouvelles interactions ? 19 décembre 2011

<http://images.math.cnrs.fr/Arts-et-Mathematiques-de-nouvelles.html>

L'avenir des publications mathématiques, 5 novembre 2012

<http://images.math.cnrs.fr/L-avenir-des-publications.html>