

List of Publications

Herwig Wendt

1 International Journals

- [1] P. Abry, H. Wendt, S. Jaffard, and G. Didier, "Multivariate scale-free temporal dynamics: From spectral (fourier) to fractal (wavelet) analysis," *Comptes Rendus de l'Académie des Sciences*, vol. 20, no. 5, pp. 489–501, 2019. [.pdf](#)
- [2] S. Jaffard, S. Seuret, H. Wendt, R. Leonarduzzi, and P. Abry, "Multifractal formalisms for multivariate analysis," *Proc. Royal Society A*, vol. 475, no. 2229, 2019. [.pdf](#)
- [3] R. Leonarduzzi, P. Abry, H. Wendt, S. Jaffard, H. Touchette, "A Generalized Multifractal Formalism for the Estimation of Nonconcave Multifractal Spectra," *IEEE T. Signal Proces.*, vol. 67, no. 1, pp. 110-119, 2019. [.pdf](#)
- [4] H. Wendt, P. Abry, K. Kiyono, J. Hayano, E. Watanabe, Y. Yamamoto, "Wavelet p-Leader Non Gaussian Multiscale Expansions for Heart Rate Variability Analysis in Congestive Heart Failure Patients," *IEEE T. Biomedical Engineering*, vol. 66, no. 1, pp. 80-87, 2019. [.pdf](#)
- [5] S. Jaffard, S. Seuret, H. Wendt, R. Leonarduzzi, S. Roux, P. Abry, "Multivariate multifractal analysis," *Applied and Computational Harmonic Analysis*, vol. 46, no. 3, pp. 653-663, 2019. [.pdf](#)
- [6] H. Wendt, S. Combexelle, Y. Altmann, J.-Y. Tourneret, S. McLaughlin, P. Abry, "Multifractal analysis of multivariate images using gamma Markov random field priors," *SIAM J. on Imaging Sciences (SIIMS)*, vol. 11, no. 2, pp. 1294-1316, 2018. [.pdf](#)
- [7] G. Valenza, H. Wendt, K. Kiyono, J. Hayano, E. Watanabe, Y. Yamamoto, P. Abry, R. Barbieri, "Mortality Prediction in Severe Congestive Heart Failure Patients With Multifractal Point-Process Modeling of Heartbeat Dynamics," *IEEE T. Biomedical Engineering*, vol. 65, no. 10, pp. 2345-2354, 2018. [.pdf](#)
- [8] R. Leonarduzzi, P. Abry, H. Wendt, K. Kiyono, Y. Yamamoto, E. Watanabe, J. Hayano, "Scattering Transform of Heart Rate Variability for the Prediction of Ischemic Stroke in Patients with Atrial Fibrillation," *Methods of Information in Medicine*, vol. 57, no. 3, pp. 141-145, 2018. [.pdf](#)
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- [10] J. Frecon, N. Pustelnik, N. Dobigeon, H. Wendt, P. Abry, "Bayesian selection for the l2-Potts model regularization parameter: 1D piecewise constant signal denoising," *IEEE T. Signal Proces.*, vol. 65, no. 19, pp. 5215-5224, 2017. [.pdf](#)
- [11] R. Leonarduzzi, H. Wendt, P. Abry, S. Jaffard, C. Melot, "Finite resolution effects in p-leader multifractal analysis," *IEEE T. Signal Proces.*, 2017, vol. 65, no. 13, pp. 3359–3368. [.pdf](#)
- [12] R. Fontunge, P. Abry, K. Fukuda, D. Veitch, K. Cho, P. Borgnat, H. Wendt, "Scaling in Internet Traffic: a 14 year and 3 day longitudinal study, with multiscale analyses and random projections," *IEEE/ACM T. Networking*, vol. 25, no. 4, 2017. [.pdf](#)

- [13] N. Pustelnik, H. Wendt, P. Abry, N. Dobigeon, "Combining local regularity estimation and total variation optimization for scale-free texture segmentation," *IEEE T. Computational Imaging*, vol. 2, no. 4, pp. 468–479, 2016. [.pdf](#)
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- [17] H. Wendt, N. Dobigeon, J.-Y. Tourneret, M. Albinet, C. Goldstein, N. Karouche, "Detection and Correction of Glitches in a Multiplexed Multi-channel Data Stream - Application to the MADRAS Instrument," *IEEE T. Geoscience and Remote Sensing*, vol. 54, no. 5, pp. 2803–2811, 2016. [www](#) | [.pdf](#)
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- [23] M.V. de Hoop, G. Uhlmann, A. Vasy, H. Wendt, "Multi-scale discrete approximations of Fourier integral operators associated with canonical transformations and caustics," *SIAM Multiscale Model. Simul.*, vol. 11, no. 2, pp. 566–585, 2013. [.pdf](#)
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- [29] H. Wendt, P. Abry, S. Jaffard, “Bootstrap for empirical multifractal analysis,” *IEEE Signal Proc. Mag.*, vol. 24, no. 4, pp. 38–48, 2007. [.pdf](#)
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2 National Journals

- [31] H. Wendt, P. Abry, S.G. Roux, S. Jaffard, B. Vedel, “Analyse multifractale d’image: l’apport des coefficients dominants,” *Revue Traitement du Signal*, vol. 25, no. 4–5, 2009. [.pdf](#)

3 International Conferences with Selection Panels

- [32] H. Wendt, M. Hourani, A. Basarab, D. Kouame, “Multifractal Characterization of Tissues in Ultrasound Imaging: a Study on the Influence of Deconvolution” in *IEEE International Ultrasonic Symposium (IUS)*, Las Vegas, USA, Sept. 2020. [.pdf](#)
- [33] V. Catrambone, H. Wendt, R. Barbieri, P. Abry, G. Valenza, “Quantifying Functional Links between Brain and Heartbeat Dynamics in the Multifractal Domain: A Preliminary Analysis,” in *International IEEE EMBS Conference (EMBC)*, Montreal, Canada, Jul. 2020. [.pdf](#)
- [34] V. Catrambone, H. Wendt, R. Barbieri, P. Abry, G. Valenza, “Wavelet-based Multifractal Analysis of Heartbeat Dynamics: Non-Gaussian Expansion vs. Cumulants,” in *Proc. Conference of the European Study Group on Cardiovascular Oscillations (ESGCO)*, Pisa, Italy, Apr. 2020. [.pdf](#)
- [35] V. Catrambone, P. Abry, G. Valenza, H. Wendt, G. Didier, R. Barbieri, “Multiscale Eigen Analysis on EEG and Heartbeat Dynamics: a Pilot study,” in *Proc. Conference of the European Study Group on Cardiovascular Oscillations (ESGCO)*, Pisa, Italy, Apr. 2020. [.pdf](#)
- [36] H. Wendt, M. Hourani, A. Basarab, D. Kouame, “Deconvolution for improved multifractal characterization of tissues in ultrasound imaging,” in *Proc. IEEE International Symposium on Biomedical Imaging (ISBI)*, Iowa City, USA, Apr. 2020. [.pdf](#)
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- [38] C. Boniece, H. Wendt, G. Didier, and P. Abry, “Wavelet-based detection and estimation of fractional levy signals in high dimensions,” in *Proc. IEEE Int. Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, Guadeloupe, France, Dec. 2019, [.pdf](#)
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- [40] M. Dimiccoli and H. Wendt, "Enhancing temporal segmentation by nonlocal self-similarity," in *Proc. IEEE Int. Conf. Image Proces. (ICIP)*, Taipei, Taiwan, Sept. 2019. [.pdf](#)
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- [42] B.C. Boniece, G. Didier, H. Wendt, P. Abry, "On Multivariate non-Gaussian Scale Invariance: Fractional Lévy Processes and Wavelet Estimation," *European Signal Processing Conference (EUSIPCO)*, A Coruna (Spain), Sept. 2019. [.pdf](#)
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