Hau-Tieng Wu

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/2515957/publications.pdf

Version: 2024-02-01

124 papers	5,315 citations	172457 29 h-index	88630 70 g-index
130 all docs	130 docs citations	130 times ranked	3504 citing authors

#	Article	IF	Citations
1	Synchrosqueezed wavelet transforms: An empirical mode decomposition-like tool. Applied and Computational Harmonic Analysis, 2011, 30, 243-261.	2.2	1,698
2	Time-Frequency Reassignment and Synchrosqueezing: An Overview. IEEE Signal Processing Magazine, 2013, 30, 32-41.	5.6	456
3	The Synchrosqueezing algorithm for time-varying spectral analysis: Robustness properties and new paleoclimate applications. Signal Processing, 2013, 93, 1079-1094.	3.7	450
4	Synchrosqueezing-Based Recovery of Instantaneous Frequency from Nonuniform Samples. SIAM Journal on Mathematical Analysis, 2011, 43, 2078-2095.	1.9	253
5	Vector diffusion maps and the connection Laplacian. Communications on Pure and Applied Mathematics, 2012, 65, 1067-1144.	3.1	154
6	ConceFT: concentration of frequency and time via a multitapered synchrosqueezed transform. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20150193.	3.4	117
7	Assess Sleep Stage by Modern Signal Processing Techniques. IEEE Transactions on Biomedical Engineering, 2015, 62, 1159-1168.	4.2	92
8	Using synchrosqueezing transform to discover breathing dynamics from ECG signals. Applied and Computational Harmonic Analysis, 2014, 36, 354-359.	2.2	83
9	ONE OR TWO FREQUENCIES? THE SYNCHROSQUEEZING ANSWERS. Advances in Adaptive Data Analysis, 2011, 03, 29-39.	0.6	80
10	Non-Parametric and Adaptive Modelling of Dynamic Periodicity and Trend with Heteroscedastic and Dependent Errors. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2014, 76, 651-682.	2.2	80
11	Instantaneous frequency and wave shape functions (I). Applied and Computational Harmonic Analysis, 2013, 35, 181-199.	2.2	73
12	Alternating projection, ptychographic imaging and phase synchronization. Applied and Computational Harmonic Analysis, 2016, 41, 815-851.	2.2	70
13	Heart beat classification from single-lead ECG using the synchrosqueezing transform. Physiological Measurement, 2017, 38, 171-187.	2.1	61
14	A Novel Blaschke Unwinding Adaptive-Fourier-Decomposition-Based Signal Compression Algorithm With Application on ECG Signals. IEEE Journal of Biomedical and Health Informatics, 2019, 23, 672-682.	6.3	58
15	Sleep Apnea Detection Based on Thoracic and Abdominal Movement Signals of Wearable Piezoelectric Bands. IEEE Journal of Biomedical and Health Informatics, 2017, 21, 1533-1545.	6.3	54
16	Wave-Shape Function Analysis. Journal of Fourier Analysis and Applications, 2018, 24, 451-505.	1.0	52
17	Augmented projections for ptychographic imaging. Inverse Problems, 2013, 29, 115009.	2.0	51
18	Local Linear Regression on Manifolds and Its Geometric Interpretation. Journal of the American Statistical Association, 2013, 108, 1421-1434.	3.1	45

#	Article	IF	Citations
19	Imaging Cytometry of Human Leukocytes with Third Harmonic Generation Microscopy. Scientific Reports, 2016, 6, 37210.	3.3	39
20	Traditional Chinese medicine use is associated with lower end-stage renal disease and mortality rates among patients with diabetic nephropathy: a population-based cohort study. BMC Complementary and Alternative Medicine, 2019, 19, 81.	3.7	39
21	A new test for functional one-way ANOVA with applications to ischemic heart screening. Computational Statistics and Data Analysis, 2019, 132, 3-17.	1.2	35
22	Real-time dynamics acquisition from irregular samples â€" With application to anesthesia evaluation. Analysis and Applications, 2016, 14, 537-590.	2.2	34
23	Graph connection Laplacian methods can be made robust to noise. Annals of Statistics, 2016, 44, .	2.6	34
24	Extract Fetal ECG from Single-Lead Abdominal ECG by De-Shape Short Time Fourier Transform and Nonlocal Median. Frontiers in Applied Mathematics and Statistics, 2017, 3, .	1.3	34
25	Heart Rate Variability Is Associated with Survival in Patients with Brain Metastasis: A Preliminary Report. BioMed Research International, 2013, 2013, 1-6.	1.9	32
26	Entropy-based time-varying window width selection for nonlinear-type timeâ€"frequency analysis. International Journal of Data Science and Analytics, 2017, 3, 231-245.	4.1	32
27	Efficient Fetal-Maternal ECG Signal Separation from Two Channel Maternal Abdominal ECG via Diffusion-Based Channel Selection. Frontiers in Physiology, 2017, 8, 277.	2.8	32
28	Non-invasive biomarkers of fetal brain development reflecting prenatal stress: An integrative multi-scale multi-species perspective on data collection and analysis. Neuroscience and Biobehavioral Reviews, 2020, 117, 165-183.	6.1	31
29	Two-Dimensional Tomography from Noisy Projections Taken at Unknown Random Directions. SIAM Journal on Imaging Sciences, 2013, 6, 136-175.	2.2	30
30	How Nonlinear-Type Time-Frequency Analysis Can Help in Sensing Instantaneous Heart Rate and Instantaneous Respiratory Rate from Photoplethysmography in a Reliable Way. Frontiers in Physiology, 2017, 8, 701.	2.8	30
31	Orientability and diffusion maps. Applied and Computational Harmonic Analysis, 2011, 31, 44-58.	2.2	29
32	Evaluating Physiological Dynamics via Synchrosqueezing: Prediction of Ventilator Weaning. IEEE Transactions on Biomedical Engineering, 2014, 61, 736-744.	4.2	29
33	The correlation between pulse diagnosis and constitution identification in traditional Chinese medicine. Complementary Therapies in Medicine, 2017, 30, 107-112.	2.7	28
34	A healthy dose of chaos: Using fractal frameworks for engineering higher-fidelity biomedical systems. Biomaterials, 2019, 219, 119363.	11.4	28
35	A Persistent Homology Approach to Heart Rate Variability Analysis With an Application to Sleep-Wake Classification. Frontiers in Physiology, 2021, 12, 637684.	2.8	27
36	Carrier Frequencies, Holomorphy, and Unwinding. SIAM Journal on Mathematical Analysis, 2017, 49, 4838-4864.	1.9	26

#	Article	IF	Citations
37	Prediction of the severity of obstructive sleep apnea by anthropometric features via support vector machine. PLoS ONE, 2017, 12, e0176991.	2.5	26
38	Diffuse to fuse EEG spectra â€“ Intrinsic geometry of sleep dynamics for classification. Biomedical Signal Processing and Control, 2020, 55, 101576.	5.7	26
39	Fetal heart rate variability responsiveness to maternal stress, non-invasively detected from maternal transabdominal ECG. Archives of Gynecology and Obstetrics, 2020, 301, 405-414.	1.7	26
40	Convex Optimization approach to signals with fast varying instantaneous frequency. Applied and Computational Harmonic Analysis, 2018, 44, 89-122.	2.2	25
41	Time-varying spectral analysis revealing differential effects of sevoflurane anaesthesia: non-rhythmic-to-rhythmic ratio. Acta Anaesthesiologica Scandinavica, 2014, 58, 157-167.	1.6	24
42	Current state of nonlinear-type timeâ€“frequency analysis and applications to high-frequency biomedical signals. Current Opinion in Systems Biology, 2020, 23, 8-21.	2.6	24
43	Temporal Patterns in Sheep Fetal Heart Rate Variability Correlate to Systemic Cytokine Inflammatory Response: A Methodological Exploration of Monitoring Potential Using Complex Signals Bioinformatics. PLoS ONE, 2016, 11, e0153515.	2.5	23
44	Diffusion geometry approach to efficiently remove electrical stimulation artifacts in intracranial electroencephalography. Journal of Neural Engineering, 2019, 16, 036010.	3.5	23
45	Accurate detection of cerebellar smooth pursuit eye movement abnormalities via mobile phone video and machine learning. Scientific Reports, 2020, 10, 18641.	3.3	23
46	Alternating diffusion maps for multimodal data fusion. Information Fusion, 2019, 45, 346-360.	19.1	22
47	A new time-frequency method to reveal quantum dynamics of atomic hydrogen in intense laser pulses: Synchrosqueezing transform. AIP Advances, 2014, 4, 117138.	1.3	21
48	Pattern recognition algorithm to identify detrusor overactivity on urodynamics. Neurourology and Urodynamics, 2021, 40, 428-434.	1.5	18
49	Impact of Ventilatory Modes on the Breathing Variability in Mechanically Ventilated Infants. Frontiers in Pediatrics, 2014, 2, 132.	1.9	17
50	Think globally, fit locally under the manifold setup: Asymptotic analysis of locally linear embedding. Annals of Statistics, 2018, 46, .	2.6	17
51	Latent common manifold learning with alternating diffusion: Analysis and applications. Applied and Computational Harmonic Analysis, 2019, 47, 848-892.	2.2	17
52	Portable Sleep Apnea Syndrome Screening and Event Detection Using Long Short-Term Memory Recurrent Neural Network. Sensors, 2020, 20, 6067.	3.8	17
53	Modeling the Pulse Signal by Wave-Shape Function and Analyzing by Synchrosqueezing Transform. PLoS ONE, 2016, 11, e0157135.	2.5	16
54	Single-lead f-wave extraction using diffusion geometry. Physiological Measurement, 2017, 38, 1310-1334.	2.1	16

#	Article	IF	Citations
55	Spectral convergence of graph Laplacian and heat kernel reconstruction in Lâˆž from random samples. Applied and Computational Harmonic Analysis, 2021, 55, 282-336.	2.2	16
56	ConceFT for Time-Varying Heart Rate Variability Analysis as a Measure of Noxious Stimulation During General Anesthesia. IEEE Transactions on Biomedical Engineering, 2017, 64, 145-154.	4.2	15
57	A network perspective on patient experiences and health status: the Medical Expenditure Panel Survey 2004 to 2011. BMC Health Services Research, 2017, 17, 579.	2.2	15
58	Recovering Hidden Components in Multimodal Data with Composite Diffusion Operators. SIAM Journal on Mathematics of Data Science, 2019, 1, 588-616.	1.8	15
59	Optimizing Estimates of Instantaneous Heart Rate from Pulse Wave Signals with the Synchrosqueezing Transform. Methods of Information in Medicine, 2016, 55, 463-472.	1.2	14
60	Non-Contact Photoplethysmogram and Instantaneous Heart Rate Estimation from Infrared Face Video. , 2019, , .		14
61	Automated J Wave Detection from Digital 12-lead Electrocardiogram. Journal of Electrocardiology, 2015, 48, 21-28.	0.9	13
62	Electrocardiographic J Wave and Cardiovascular Outcomes in the General Population (from the) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 46	1.6	13
63	Embedding Riemannian manifolds by the heat kernel of the connection Laplacian. Advances in Mathematics, 2017, 304, 1055-1079.	1.1	13
64	Recovery of the fetal electrocardiogram for morphological analysis from two trans-abdominal channels via optimal shrinkage. Physiological Measurement, 2019, 40, 115005.	2.1	12
65	Solving Jigsaw Puzzles by the Graph Connection Laplacian. SIAM Journal on Imaging Sciences, 2020, 13, 1717-1753.	2.2	12
66	Novel Imaging Revealing Inner Dynamics for Cardiovascular Waveform Analysis via Unsupervised Manifold Learning. Anesthesia and Analgesia, 2020, 130, 1244-1254.	2.2	12
67	An adaptive QRS detection algorithm for ultra-long-term ECG recordings. Journal of Electrocardiology, 2020, 60, 165-171.	0.9	12
68	Decomposing Non-Stationary Signals With Time-Varying Wave-Shape Functions. IEEE Transactions on Signal Processing, 2021, 69, 5094-5104.	5.3	12
69	Spectral convergence of the connection Laplacian from random samples. Information and Inference, 2016, , iaw016.	1.6	11
70	A new approach for analysis of heart rate variability and QT variability in long-term ECG recording. BioMedical Engineering OnLine, 2018, 17, 54.	2.7	11
71	Brief Report: Can a Composite Heart Rate Variability Biomarker Shed New Insights About Autism Spectrum Disorder in School-Aged Children?. Journal of Autism and Developmental Disorders, 2021, 51, 346-356.	2.7	11
72	Fetal heart rate during maternal sleep. Developmental Psychobiology, 2021, 63, 945-959.	1.6	11

#	Article	IF	Citations
73	Commentary: Computerised interpretation of fetal heart rate during labour (INFANT): a randomised controlled trial. Frontiers in Physiology, 2017, 8, 721.	2.8	10
74	Wave-shape oscillatory model for nonstationary periodic time series analysis. , 2021, 3, 99.		10
75	Alternating diffusion for common manifold learning with application to sleep stage assessment. , 2015, , .		9
76	Exploring laser-driven quantum phenomena from a time-frequency analysis perspective: a comprehensive study. Optics Express, 2015, 23, 30459.	3.4	9
77	Feasibility of Classifying Life Stages and Searching for the Determinants: Results from the Medical Expenditure Panel Survey 1996â€“2011. Frontiers in Public Health, 2017, 5, 247.	2.7	9
78	Analyzing transient-evoked otoacoustic emissions by concentration of frequency and time. Journal of the Acoustical Society of America, 2018, 144, 448-466.	1.1	9
79	Recycling cardiogenic artifacts in impedance pneumography. Biomedical Signal Processing and Control, 2019, 51, 162-170.	5.7	9
80	Transient-evoked otoacoustic emission signals predicting outcomes of acute sensorineural hearing loss in patients with MÃ©niÃ¨reâ€™s disease. Acta Oto-Laryngologica, 2020, 140, 230-235.	0.9	9
81	A Comparison of Five Algorithms for Fetal Magnetocardiography Signal Extraction. Cardiovascular Engineering and Technology, 2018, 9, 483-487.	1.6	8
82	Connecting dots: from local covariance to empirical intrinsic geometry and locally linear embedding. Pure and Applied Analysis, 2019, 1, 515-542.	1.1	7
83	An Exploration Algorithm for Stochastic Simulators Driven by Energy Gradients. Entropy, 2017, 19, 294.	2.2	6
84	Unexpected sawtooth artifact in beat-to-beat pulse transit time measured from patient monitor data. PLoS ONE, 2019, 14, e0221319.	2.5	6
85	A new approach to complicated and noisy physiological waveforms analysis: peripheral venous pressure waveform as an example. Journal of Clinical Monitoring and Computing, 2021, 35, 637-653.	1.6	6
86	On the Spectral Property of Kernel-Based Sensor Fusion Algorithms of High Dimensional Data. IEEE Transactions on Information Theory, 2021, 67, 640-670.	2.4	6
87	Large-scale assessment of consistency in sleep stage scoring rules among multiple sleep centers using an interpretable machine learning algorithm. Journal of Clinical Sleep Medicine, 2021, 17, 159-166.	2.6	6
88	Interpretable morphological features for efficient single-lead automatic ventricular ectopy detection. Journal of Electrocardiology, 2021, 65, 55-63.	0.9	6
89	Denoising click-evoked otoacoustic emission signals by optimal shrinkage. Journal of the Acoustical Society of America, 2021, 149, 2659-2670.	1.1	6
90	Hypoventilation patterns during bronchoscopic sedation and their clinical relevance based on capnographic and respiratory impedance analysis. Journal of Clinical Monitoring and Computing, 2020, 34, 171-179.	1.6	5

#	Article	IF	Citations
91	Save Muscle Informationâ€“Unfiltered EEG Signal Helps Distinguish Sleep Stages. Sensors, 2020, 20, 2024.	3.8	5
92	Cardiorespiratory coupling is associated with exercise capacity in patients with chronic obstructive pulmonary disease. BMC Pulmonary Medicine, 2021, 21, 22.	2.0	5
93	An Efficient Forecasting Approach to Reduce Boundary Effects in Real-Time Time-Frequency Analysis. IEEE Transactions on Signal Processing, 2021, 69, 1653-1663.	5.3	5
94	Reconsider phase reconstruction in signals with dynamic periodicity from the modern signal processing perspective. , 2022, 4, 355.		5
95	Phenotype-Based and Self-Learning Inter-Individual Sleep Apnea Screening With a Level IV-Like Monitoring System. Frontiers in Physiology, 2018, 9, 723.	2.8	4
96	Theta Oscillations at Subthalamic Region Predicts Hypomania State After Deep Brain Stimulation in Parkinson's Disease. Frontiers in Human Neuroscience, 2021, 15, 797314.	2.0	4
97	Non-Parametric Estimation of Intraday Spot Volatility: Disentangling Instantaneous Trend and Seasonality. Econometrics, 2015, 3, 864-887.	0.9	3
98	When Interpolation-Induced Reflection Artifact Meets Timeâ€“Frequency Analysis. IEEE Transactions on Biomedical Engineering, 2016, 63, 2133-2141.	4.2	3
99	Capnography monitoring the hypoventilation during the induction of bronchoscopic sedation: A randomized controlled trial. Scientific Reports, 2017, 7, 8685.	3.3	3
100	Convergence of graph Laplacian with kNN self-tuned kernels. Information and Inference, 2022, 11, 889-957.	1.6	3
101	Get rid of the beat in mobile EEG applications: A framework towards automated cardiogenic artifact detection and removal in single-channel EEG. Biomedical Signal Processing and Control, 2022, 72, 103220.	5.7	3
102	Graph Based Gaussian Processes on Restricted Domains. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2022, 84, 414-439.	2.2	3
103	Respiratory Variability during NAVA Ventilation in Children: AuthorsÃ¢â‚¬â„¢ Reply. Frontiers in Pediatrics, 2015, 3, 13.	1.9	2
104	Robust T-End Detection via T-End Signal Quality Index and Optimal Shrinkage. Sensors, 2020, 20, 7052.	3.8	2
105	Strong uniform consistency with rates for kernel density estimators with general kernels on manifolds. Information and Inference, 2022, 11, 781-799.	1.6	2
106	Improve concentration of frequency and time (ConceFT) by novel complex spherical designs. Applied and Computational Harmonic Analysis, 2021, 54, 137-144.	2.2	2
107	Airflow recovery from thoracic and abdominal movements using synchrosqueezing transform and locally stationary Gaussian process regression. Computational Statistics and Data Analysis, 2021, , 107384.	1.2	2
108	Explore Intrinsic Geometry of Sleep Dynamics and Predict Sleep Stage by Unsupervised Learning Techniques. Springer Optimization and Its Applications, 2021, , 279-324.	0.9	2

#	Article	IF	Citations
109	Is the Median Hourly Ambulatory Heart Rate Range Helpful in Stratifying Mortality Risk among Newly Diagnosed Atrial Fibrillation Patients?. Journal of Personalized Medicine, 2021, 11, 1202.	2.5	2
110	Asymptotic analysis of higher-order scattering transform of Gaussian processes. Electronic Journal of Probability, 2022, 27, .	1.0	2
111	Prenatal stress perturbs fetal iron homeostasis in a sex specific manner. Scientific Reports, 2022, 12, .	3.3	2
112	Embeddings of Riemannian manifolds with finite eigenvector fields of connection Laplacian. Calculus of Variations and Partial Differential Equations, 2018, 57, 1.	1.7	1
113	A Portable Monitoring System with Automatic Event Detection for Sleep Apnea Level-IV Evaluation. , 2018, , .		1
114	Manifold Learning via the Principle Bundle Approach. Frontiers in Applied Mathematics and Statistics, 2018, 4, .	1.3	1
115	On Zeroes of Random Polynomials and an Application to Unwinding. International Mathematics Research Notices, 2021, 2021, 10100-10117.	1.0	1
116	Oscillatory Biomedical Signals: Frontiers in Mathematical Models and Statistical Analysis. Frontiers in Applied Mathematics and Statistics, 2021, 7, .	1.3	1
117	Non-invasive acquisition of fetal ECG from the maternal xyphoid process: a feasibility study in pregnant sheep and a call for open data sets. Physiological Measurement, 2018, 39, 035005.	2.1	0
118	Analysis of click-evoked otoacoustic emissions by concentration of frequency and time: Preliminary results from normal hearing and MÃ©niÃ¨reâ€™s disease ears. AIP Conference Proceedings, 2018, , .	0.4	0
119	Locally Convex Kernel Mixtures: Bayesian Subspace Learning. , 2019, , .		0
120	Differentiation of skin incision and laparoscopic trocar insertion via quantifying transient bradycardia measured by electrocardiogram. Journal of Clinical Monitoring and Computing, 2020, 34, 753-762.	1.6	0
121	A novel feature representation approach for single-lead heartbeat classification based on adaptive Fourier decomposition. International Journal of Wavelets, Multiresolution and Information Processing, 2021, 19, .	1.3	0
122	Non-Parametric Estimation of Intraday Spot Volatility: Disentangling Instantaneous Trend and Seasonality. SSRN Electronic Journal, 0, , .	0.4	0
123	Diffusion operators for multimodal data analysis. Handbook of Numerical Analysis, 2019, 20, 1-39.	1.8	0
124	On the behavior of 1-Laplacian ratio cuts on nearly rectangular domains. Information and Inference, 2021, 10, 1563-1610.	1.6	0