

Stanford



Peter Tass

Professor of Neurosurgery

CONTACT INFORMATION

- **Administrative Contact**

Alison Fry - Administrative Associate II

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Bio

BIO

Dr. Peter Tass investigates and develops neuromodulation techniques for understanding and treating neurologic conditions such as Parkinson's disease, epilepsy, dysfunction following stroke and tinnitus. He creates invasive and non-invasive therapeutic procedures by means of comprehensive computational neuroscience studies and advanced data analysis techniques. The computational neuroscience studies guide experiments that use clinical electrophysiology measures, such as high density EEG recordings and MRI imaging, and various outcome measures. He has pioneered a neuromodulation approach based on thorough computational modelling that employs dynamic self-organization, plasticity and other neuromodulation principles to produce sustained effects after stimulation. To investigate stimulation effects and disease-related brain activity, he focuses on the development of stimulation methods that cause a sustained neural desynchronization by an unlearning of abnormal synaptic interactions. He also performs and contributes to pre-clinical and clinical research in related areas.

ACADEMIC APPOINTMENTS

- Professor, Neurosurgery
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Member of the European Academy of Sciences and Arts, European Academy of Sciences and Arts, Salzburg, Austria (2012)
- Nicolaus August Otto Innovation Prize, City of Cologne, Germany (2011)
- German Innovation Award in Medicine, Worch Foundation (2011)
- Rapid Response Innovation Award, The Michael J. Fox Foundation for Parkinson's Research (2010)
- Rapid Response Innovation Award, The Michael J. Fox Foundation for Parkinson's Research (2009)
- Runner-up for the German future prize 2006, President of the Federal Republic of Germany (2006)
- Erwin Schrödinger prize, Hermann von Helmholtz Association of German Research Centres (2005)
- Fritz Winter prize, Fritz Winter foundation, Academy of Sciences of North Rhine-Westphalia, Germany (2000)

PROFESSIONAL EDUCATION

- Habilitation thesis, RWTH Aachen University, Aachen, Germany , Physiology (2001)
- Diploma (master's degree), University of Stuttgart, Germany , Mathematics (1993)
- PhD, University of Stuttgart, Germany , Physics (1993)
- MD, Universities of Ulm and Heidelberg, Germany , Medicine (1989)

LINKS

- Peter Tass Lab: <http://med.stanford.edu/tass-lab>
- Peter Tass on ResearchGate: https://www.researchgate.net/profile/Peter_Tass
- Peter Tass on Frontiers Loop: <https://loop.frontiersin.org/people/2560/overview>
- Stanford Neurosurgery: <http://med.stanford.edu/neurosurgery.html>
- Peter Tass on Google Scholar: https://scholar.google.com/citations?hl=en&user=IGB-wHkAAAAJ&view_op=list_works&gmla=AJsN-F5LDooMGVic4VCbDUrns7kRM0ppgo4yj2nTL16VUu80elWkTxaW-S5tbcfR7_VWgTRDGB1UBFFEnBK-0364c-Eqil46exVk10ntrn9Ua0EGtgTYqY4
- Wu Tsai Neurosciences Institute: <https://neuroscience.stanford.edu/people/peter-tass>

Research & Scholarship

CLINICAL TRIALS

- Coordinated Reset Spinal Cord Stimulation, Not Recruiting
- VCR: A Treatment for Early Stage Parkinson's Disease, Not Recruiting

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Daniel Ehrens

Doctoral Dissertation Advisor (AC)

Yasmine Kehnemouyi

Publications

PUBLICATIONS

- **Synaptic network structure shapes cortically evoked spatio-temporal responses of STN and GPe neurons in a computational model.** *Frontiers in neuroinformatics*
Kromer, J. A., Bokil, H., Tass, P. A.
2023; 17: 1217786
- **Perspectives on adaptive dynamical systems.** *Chaos (Woodbury, N.Y.)*
Sawicki, J., Berner, R., Loos, S. A., Anvari, M., Bader, R., Barfuss, W., Botta, N., Brede, N., Franovi#, I., Gauthier, D. J., Goldt, S., Hajizadeh, A., Hövel, et al
2023; 33 (7)
- **Asymmetric adaptivity induces recurrent synchronization in complex networks.** *Chaos (Woodbury, N.Y.)*
Thiele, M., Berner, R., Tass, P. A., Scholl, E., Yanchuk, S.
2023; 33 (2): 023123
- **Decoupling of interacting neuronal populations by time-shifted stimulation through spike-timing-dependent plasticity.** *PLoS computational biology*
Madadi Asl, M., Valizadeh, A., Tass, P. A.
2023; 19 (2): e1010853

- **Synaptic reshaping of plastic neuronal networks by periodic multichannel stimulation with single-pulse and burst stimuli.** *PLoS computational biology*
Kromer, J. A., Tass, P. A.
2022; 18 (11): e1010568
- **Dynamics of phase oscillator networks with synaptic weight and structural plasticity.** *Scientific reports*
Chauhan, K., Khaledi-Nasab, A., Neiman, A. B., Tass, P. A.
2022; 12 (1): 15003
- **Pilot study of responsive nucleus accumbens deep brain stimulation for loss-of-control eating.** *Nature medicine*
Shivacharan, R. S., Rolle, C. E., Barbosa, D. A., Cunningham, T. N., Feng, A., Johnson, N. D., Safer, D. L., Bohon, C., Keller, C., Buch, V. P., Parker, J. J., Azagury, D. E., Tass, et al
2022
- **Vibrotactile coordinated reset stimulation for the treatment of Parkinson's disease.** *Neural regeneration research*
Tass, P. A.
1800; 17 (7): 1495-1497
- **Long-Lasting Desynchronization of Plastic Neuronal Networks by Double-Random Coordinated Reset Stimulation.** *Frontiers in network physiology*
Khaledi-Nasab, A., Kromer, J. A., Tass, P. A.
2022; 2: 864859
- **Spike-Timing-Dependent Plasticity Mediated by Dopamine and its Role in Parkinson's Disease Pathophysiology.** *Frontiers in network physiology*
Madadi Asl, M., Vahabie, A. H., Valizadeh, A., Tass, P. A.
2022; 2: 817524
- **Long-Lasting Desynchronization of Plastic Neuronal Networks by Double-Random Coordinated Reset Stimulation** *Frontiers in Network Physiology*
Khaledi-Nasab, A., Kromer, J. A., Tass, P. A.
2022; 2
- **Exploiting modern multi-site electrodes for counteracting abnormal synchronization**
Nasab, A., Kromer, J., Tass, P.
SPRINGER.2021: S181
- **Long-lasting desynchronization using randomized spatio-temporal stimulus patterns**
Kromer, J., Nasab, A., Tass, P.
SPRINGER.2021: S181-S183
- **Treatment Tone Spacing and Acute Effects of Acoustic Coordinated Reset Stimulation in Tinnitus Patients.** *Frontiers in network physiology*
Munjal, T., Silchenko, A. N., Pfeifer, K. J., Han, S. S., Yankulova, J. K., Fitzgerald, M. B., Adamchic, I., Tass, P. A.
2021; 1: 734344
- **Publisher Correction: Multistability in a star network of Kuramoto-type oscillators with synaptic plasticity.** *Scientific reports*
Ratas, I., Pyragas, K., Tass, P. A.
2021; 11 (1): 18603
- **Long-Term Desynchronization by Coordinated Reset Stimulation in a Neural Network Model With Synaptic and Structural Plasticity** *FRONTIERS IN PHYSIOLOGY*
Manos, T., Diaz-Pier, S., Tass, P. A.
2021; 12: 716556
- **Multistability in a star network of Kuramoto-type oscillators with synaptic plasticity.** *Scientific reports*
Ratas, I., Pyragas, K., Tass, P. A.
2021; 11 (1): 9840
- **Information processing in tree networks of excitable elements.** *Physical review. E*
Khaledi-Nasab, A., Chauhan, K., Tass, P. A., Neiman, A. B.
2021; 103 (1-1): 012308
- **Clinical Efficacy and Dosing of Vibrotactile Coordinated Reset Stimulation in Motor and Non-motor Symptoms of Parkinson's Disease: A Study Protocol.** *Frontiers in neurology*

- Pfeifer, K. J., Cook, A. J., Yankulova, J. K., Mortimer, B. J., Erickson-DiRenzo, E., Dhall, R., Montaser-Kouhsari, L., Tass, P. A.
2021; 12: 758481
- **Long-Lasting Desynchronization Effects of Coordinated Reset Stimulation Improved by Random Jitters** *Frontiers in physiology*
Khaledi-Nasab, A., Kromer, J., Tass, P. A.
2021: 1446
 - **Coordinated Reset Vibrotactile Stimulation Induces Sustained Cumulative Benefits in Parkinson's Disease.** *Frontiers in physiology*
Pfeifer, K. J., Kromer, J. A., Cook, A. J., Hornbeck, T., Lim, E. A., Mortimer, B. J., Fogarty, A. S., Han, S. S., Dhall, R., Halpern, C. H., Tass, P. A.
2021; 12: 624317
 - **Accumbens coordinated reset stimulation in mice exhibits ameliorating aftereffects on binge alcohol drinking.** *Brain stimulation*
Ho, A. L., Feng, A. Y., Barbosa, D. A., Wu, H. n., Smith, M. L., Malenka, R. C., Tass, P. A., Halpern, C. H.
2021
 - **A Single Case Feasibility Study of Sensorimotor Rhythm Neurofeedback in Parkinson's Disease.** *Frontiers in neuroscience*
Cook, A. J., Pfeifer, K. J., Tass, P. A.
2021; 15: 623317
 - **Entrainment of a network of interacting neurons with minimum stimulating charge** *PHYSICAL REVIEW E*
Pyragas, K., Fedaravicius, A. P., Pyragiene, T., Tass, P. A.
2020; 102 (1): 012221
 - **Brain-Responsive Neurostimulation for Loss of Control Eating: Early Feasibility Study.** *Neurosurgery*
Wu, H. n., Adler, S. n., Azagury, D. E., Bohon, C. n., Safer, D. L., Barbosa, D. A., Bhati, M. T., Williams, N. R., Dunn, L. B., Tass, P. A., Knutson, B. D., Yutsis, M. n., Fraser, et al
2020
 - **Information processing in tree networks of excitable elements** *Information processing in tree networks of excitable elements*
Khaledi Nasab, A., Chauhan, K., Tass, P., Neiman, A.
2020; 103: 012308
 - **Long-lasting desynchronization by decoupling stimulation** *PHYSICAL REVIEW RESEARCH*
Kromer, J. A., Tass, P. A.
2020; 2 (3)
 - **Long-Lasting Desynchronization of Plastic Neural Networks by Random Reset Stimulation.** *Frontiers in physiology*
Khaledi-Nasab, A. n., Kromer, J. A., Tass, P. A.
2020; 11: 622620
 - **Technology of deep brain stimulation: current status and future directions.** *Nature reviews. Neurology*
Krauss, J. K., Lipsman, N. n., Aziz, T. n., Boutet, A. n., Brown, P. n., Chang, J. W., Davidson, B. n., Grill, W. M., Hariz, M. I., Horn, A. n., Schulder, M. n., Mammis, A. n., Tass, et al
2020
 - **Impact of number of stimulation sites on long-lasting desynchronization effects of coordinated reset stimulation** *CHAOS*
Kromer, J. A., Khaledi-Nasab, A., Tass, P. A.
2020; 30
 - **Adaptive delivery of continuous and delayed feedback deep brain stimulation - a computational study.** *Scientific reports*
Popovych, O. V., Tass, P. A.
2019; 9 (1): 10585
 - **Acoustic coordinated reset therapy for tinnitus with perceptually relevant frequency spacing and levels** *Scientific Reports*
Tass, P. A., Silchenko, A. N., Popelka, G. R.
2019; 9: 13607
 - **Dendritic and Axonal Propagation Delays May Shape Neuronal Networks With Plastic Synapses.** *Frontiers in physiology*
Madadi Asl, M., Valizadeh, A., Tass, P. A.
2018; 9: 1849

- **Dendritic and Axonal Propagation Delays May Shape Neuronal Networks With Plastic Synapses** *FRONTIERS IN PHYSIOLOGY*
Asl, M., Valizadeh, A., Tass, P. A.
2018; 9
- **Optimal waveform for entrainment of a spiking neuron with minimum stimulating charge** *PHYSICAL REVIEW E*
Pyragas, K., Fedaravicius, A. P., Pyragiene, T., Tass, P. A.
2018; 98 (4)
- **Neuronal connectivity in major depressive disorder: a systematic review.** *Neuropsychiatric disease and treatment*
Helm, K., Viol, K., Weiger, T. M., Tass, P. A., Grefkes, C., Del Monte, D., Schiepek, G.
2018; 14: 2715-2737
- **Propagation delays determine neuronal activity and synaptic connectivity patterns emerging in plastic neuronal networks.** *Chaos (Woodbury, N.Y.)*
Madadi Asl, M., Valizadeh, A., Tass, P. A.
2018; 28 (10): 106308
- **Propagation delays determine neuronal activity and synaptic connectivity patterns emerging in plastic neuronal networks** *CHAOS*
Asl, M., Valizadeh, A., Tass, P. A.
2018; 28 (10)
- **Periodic flashing coordinated reset stimulation paradigm reduces sensitivity to ON and OFF period durations** *PLOS ONE*
Tyulmankov, D., Tass, P. A., Bokil, H.
2018; 13 (9): e0203782
- **Delay-Induced Multistability and Loop Formation in Neuronal Networks with Spike-Timing-Dependent Plasticity** *SCIENTIFIC REPORTS*
Asl, M., Valizadeh, A., Tass, P. A.
2018; 8: 12068
- **Computationally Developed Sham Stimulation Protocol for Multichannel Desynchronizing Stimulation** *FRONTIERS IN PHYSIOLOGY*
Zeitler, M., Tass, P. A.
2018; 9: 512
- **How stimulation frequency and intensity impact on the long-lasting effects of coordinated reset stimulation** *PLOS COMPUTATIONAL BIOLOGY*
Manos, T., Zeitler, M., Tass, P. A.
2018; 14 (5): e1006113
- **Short-Term Dosage Regimen for Stimulation-Induced Long-Lasting Desynchronization** *FRONTIERS IN PHYSIOLOGY*
Manos, T., Zeitler, M., Tass, P. A.
2018; 9: 376
- **Multisite Delayed Feedback for Electrical Brain Stimulation** *FRONTIERS IN PHYSIOLOGY*
Popovych, O. V., Tass, P. A.
2018; 9: 46
- **Letter: Electric Beats Open New Frontiers for Deep Brain Stimulation** *NEUROSURGERY*
Halpern, C. H., Miller, K. J., Wu, H., Tass, P. A.
2018; 82 (1): E19-E20
- **Letter: Electric Beats Open New Frontiers for Deep Brain Stimulation.** *Neurosurgery*
Halpern, C. H., Miller, K. J., Wu, H., Tass, P. A.
2018; 82 (1): E19-E20
- **Neuronal connectivity in major depressive disorder: a systematic review** *NEUROPSYCHIATRIC DISEASE AND TREATMENT*
Helm, K., Viol, K., Weiger, T. M., Tass, P. A., Grefkes, C., del Monte, D., Schiepek, G.
2018; 14: 2715-37
- **Coordinated Reset Vibrotactile Stimulation Shows Prolonged Improvement in Parkinson's Disease** *MOVEMENT DISORDERS*
Syrkin-Nikolau, J., Neuville, R., O'Day, J., Anidi, C., Koop, M., Martin, T., Tass, P. A., Bronte-Stewart, H.
2018; 33 (1): 179-80

- **Closed-loop deep brain stimulation by pulsatile delayed feedback with increased gap between pulse phases** *SCIENTIFIC REPORTS*
Popovych, O. V., Lysyansky, B., Tass, P. A.
2017; 7
- **Pulsatile desynchronizing delayed feedback for closed-loop deep brain stimulation** *PLOS ONE*
Popovych, O. V., Lysyansky, B., Rosenblum, M., Pikovsky, A., Tass, P. A.
2017; 12 (3): e0173363
- **Acute effects and after-effects of acoustic coordinated reset neuromodulation in patients with chronic subjective tinnitus.** *NeuroImage. Clinical*
Adamchic, I. n., Toth, T. n., Hauptmann, C. n., Walger, M. n., Langguth, B. n., Klingmann, I. n., Tass, P. A.
2017; 15: 541–58
- **Sensorimotor rhythm neurofeedback as adjunct therapy for Parkinson's disease.** *Annals of clinical and translational neurology*
Philippens, I. H., Wubben, J. A., Vanwersch, R. A., Estevao, D. L., Tass, P. A.
2017; 4 (8): 585–90
- **Vibrotactile Coordinated Reset Stimulation for the Treatment of Neurological Diseases: Concepts and Device Specifications.** *Cureus*
Tass, P. A.
2017; 9 (8): e1535
- **Dendritic and Axonal Propagation Delays Determine Emergent Structures of Neuronal Networks with Plastic Synapses** *Scientific Reports*
Madadi Asl, M., Valizadeh, A., Tass, P. A.
2017; 7: 39682
- **Validation of a Mobile Device for Acoustic Coordinated Reset Neuromodulation Tinnitus Therapy** *JOURNAL OF THE AMERICAN ACADEMY OF AUDIOLOGY*
Hauptmann, C., Wegener, A., Poppe, H., Williams, M., Popelka, G., Tass, P. A.
2016; 27 (9): 720-731
- **Capacitive Feedthroughs for Medical Implants** *FRONTIERS IN NEUROSCIENCE*
Grob, S., Tass, P. A., Hauptmann, C.
2016; 10
- **Anti-kindling Induced by Two-Stage Coordinated Reset Stimulation with Weak Onset Intensity** *FRONTIERS IN COMPUTATIONAL NEUROSCIENCE*
Zeitler, M., Tass, P. A.
2016; 10
- **Noise-enhanced coupling between two oscillators with long-term plasticity** *PHYSICAL REVIEW E*
Luecken, L., Popovych, O. V., Tass, P. A., Yanchuk, S.
2016; 93 (3)
- **SUPPRESSION OF SPONTANEOUS OSCILLATIONS IN HIGH-FREQUENCY STIMULATED NEURON MODELS** *LITHUANIAN JOURNAL OF PHYSICS*
Pyragas, K., Tass, P. A.
2016; 56 (4): 223-238
- **The Spacing Principle for Unlearning Abnormal Neuronal Synchrony** *PLOS ONE*
Popovych, O. V., Xenakis, M. N., Tass, P. A.
2015; 10 (2)
- **Maladaptive neural synchrony in tinnitus: origin and restoration** *FRONTIERS IN NEUROLOGY*
Eggermont, J. J., Tass, P. A.
2015; 6
- **Mathematical modeling of chemotaxis and glial scarring around implanted electrodes** *NEW JOURNAL OF PHYSICS*
Silchenko, A. N., Tass, P. A.
2015; 17
- **Acoustic Coordinated Reset Neuromodulation in a Real Life Patient Population with Chronic Tonal Tinnitus.** *BioMed research international*
Hauptmann, C., Ströbel, A., Williams, M., Patel, N., Wurzer, H., von Stackelberg, T., Brinkmann, U., Langguth, B., Tass, P. A.

2015; 2015: 569052-?

- **Augmented brain function by coordinated reset stimulation with slowly varying sequences.** *Frontiers in systems neuroscience*
Zeitler, M., Tass, P. A.
2015; 9: 49-?
- **Acoustic Coordinated Reset Neuromodulation in a Real Life Patient Population with Chronic Tonal Tinnitus** *BIOMED RESEARCH INTERNATIONAL*
Hauptmann, C., Stroebel, A., Williams, M., Patel, N., Wurzer, H., von Stackelberg, T., Brinkmann, U., Langguth, B., Tass, P. A.
2015
- **Coordinated reset stimulation in a large-scale model of the STN-GPe circuit** *FRONTIERS IN COMPUTATIONAL NEUROSCIENCE*
Ebert, M., Hauptmann, C., Tass, P. A.
2014; 8
- **Coordinated Reset Neuromodulation for Parkinson's Disease: Proof-of-Concept Study** *MOVEMENT DISORDERS*
Adamchic, I., Hauptmann, C., Barnikol, U., Pawelczyk, N., Popovych, O., Barnikol, T., Silchenko, A., Volkmann, J., Deuschl, G., Meissner, W. G., Maarouf, M., Sturm, V., Freund, et al
2014; 29 (13): 1679–84
- **Interoperable atlases of the human brain** *NEUROIMAGE*
Amunts, K., Hawrylycz, M. J., Van Essen, D. C., Van Horn, J. D., Harel, N., Poline, J., De Martino, F., Bjaalie, J. G., Dehaene-Lambertz, G., Dehaene, S., Valdes-Sosa, P., Thirion, B., Zilles, et al
2014; 99: 525-532
- **Abnormal cross-frequency coupling in the tinnitus network** *FRONTIERS IN NEUROSCIENCE*
Adamchic, I., Langguth, B., Hauptmann, C., Tass, P. A.
2014; 8
- **Reversing pathologically increased EEG power by acoustic coordinated reset neuromodulation** *HUMAN BRAIN MAPPING*
Adamchic, I., Toth, T., Hauptmann, C., Tass, P.
2014; 35 (5): 2099–2118
- **Control of abnormal synchronization in neurological disorders** *FRONTIERS IN NEUROLOGY*
Popovych, O., Tass, P. A.
2014; 5
- **Control of abnormal synchronization in neurological disorders.** *Frontiers in neurology*
Popovych, O. V., Tass, P. A.
2014; 5: 268-?
- **Mechanism of suppression of sustained neuronal spiking under high-frequency stimulation** *BIOLOGICAL CYBERNETICS*
Pyragas, K., Novicenko, V., Tass, P.
2013; 107 (6): 669–84
- **Self-organized noise resistance of oscillatory neural networks with spike timing-dependent plasticity** *SCIENTIFIC REPORTS*
Popovych, O. V., Yanchuk, S., Tass, P. A.
2013; 3: 2926
- **Computational modeling of chemotactic signaling and aggregation of microglia around implantation site during deep brain stimulation** *EUROPEAN PHYSICAL JOURNAL-SPECIAL TOPICS*
Silchenko, A. N., Tass, P. A.
2013; 222 (10): 2647–53
- **Impact of acoustic coordinated reset neuromodulation on effective connectivity in a neural network of phantom sound** *NEUROIMAGE*
Silchenko, A. N., Adamchic, I., Hauptmann, C., Tass, P. A.
2013; 77: 133–47
- **Desynchronization boost by non-uniform coordinated reset stimulation in ensembles of pulse-coupled neurons** *FRONTIERS IN COMPUTATIONAL NEUROSCIENCE*
Luecken, L., Yanchuk, S., Popovych, O. V., Tass, P. A.
2013; 7: 63

- **Neuromodulation: selected approaches and challenges** *JOURNAL OF NEUROCHEMISTRY*
Parpura, V., Silva, G. A., Tass, P. A., Bennet, K. E., Meyyappan, M., Koehne, J., Lee, K. H., Andrews, R. J.
2013; 124 (4): 436–53
- **Rebuttal to reply by G. Rucker and G. Antes on Tass et al. "Counteracting tinnitus by acoustic coordinated reset neuromodulation", Restorative Neurology and Neuroscience Vol. 30(2), 2012** *RESTORATIVE NEUROLOGY AND NEUROSCIENCE*
Tass, P. A., Adamchic, I., Freund, H., von Stackelberg, T., Hauptmann, C.
2013; 31 (3): 235–37
- **optimal number of stimulation contacts for coordinated reset neuromodulation** *Frontiers in neuroengineering*
Lysyansky, B., Popovych, O., Tass, P. A.
2013; 6: 5
- **Psychometric Evaluation of Visual Analog Scale for the Assessment of Chronic Tinnitus** *AMERICAN JOURNAL OF AUDIOLOGY*
Adamchic, I., Langguth, B., Hauptmann, C., Tass, P.
2012; 21 (2): 215–25
- **Coordinated reset has sustained aftereffects in Parkinsonian monkeys** *ANNALS OF NEUROLOGY*
Tass, P. A., Qin, L., Hauptmann, C., Dovero, S., Bezard, E., Boraud, T., Meissner, W. G.
2012; 72 (5): 816–20
- **Linking the Tinnitus Questionnaire and the subjective Clinical Global Impression: Which differences are clinically important?** *HEALTH AND QUALITY OF LIFE OUTCOMES*
Adamchic, I., Tass, P., Langguth, B., Hauptmann, C., Koller, M., Schecklmann, M., Zeman, F., Landgrebe, M.
2012; 10: 79
- **Desynchronizing electrical and sensory coordinated reset neuromodulation** *FRONTIERS IN HUMAN NEUROSCIENCE*
Popovych, O. V., Tass, P. A.
2012; 6: 58
- **Unlearning tinnitus-related cerebral synchrony with acoustic coordinated reset stimulation: theoretical concept and modelling** *BIOLOGICAL CYBERNETICS*
Tass, P. A., Popovych, O. V.
2012; 106 (1): 27–36
- **Changes of oscillatory activity in pitch processing network and related tinnitus relief induced by acoustic CR neuromodulation** *FRONTIERS IN SYSTEMS NEUROSCIENCE*
Adamchic, L., Hauptmann, C., Tass, P. A.
2012; 6: 18
- **Counteracting tinnitus by acoustic coordinated reset neuromodulation** *RESTORATIVE NEUROLOGY AND NEUROSCIENCE*
Tass, P. A., Adamchic, I., Freund, H., von Stackelberg, T., Hauptmann, C.
2012; 30 (2): 137–59
- **Variability of spatio-temporal patterns in non-homogeneous rings of spiking neurons** *CHAOS*
Yanchuk, S., Perlikowski, P., Popovych, O. V., Tass, P. A.
2011; 21 (4): 047511
- **Delay- and Coupling-Induced Firing Patterns in Oscillatory Neural Loops** *PHYSICAL REVIEW LETTERS*
Popovych, O. V., Yanchuk, S., Tass, P. A.
2011; 107 (22): 228102
- **Desynchronizing anti-resonance effect of m: n ON-OFF coordinated reset stimulation** *JOURNAL OF NEURAL ENGINEERING*
Lysyansky, B., Popovych, O. V., Tass, P. A.
2011; 8 (3): 036019
- **Subthalamic coordinated reset stimulation has sustained effects on motor symptoms in MPTP treated non-human primates**
Qin, L., Bezard, E., Boraud, T., Hauptmann, C., Tass, P. A., Meissner, W. G.
WILEY-BLACKWELL.2011: S74-S75

- **Macroscopic entrainment of periodically forced oscillatory ensembles** *PROGRESS IN BIOPHYSICS & MOLECULAR BIOLOGY*
Popovych, O. V., Tass, P. A.
2011; 105 (1-2): 98–108
- **Multi-frequency activation of neuronal networks by coordinated reset stimulation** *INTERFACE FOCUS*
Lysyansky, B., Popovych, O. V., Tass, P. A.
2011; 1 (1): 75–85
- **The Translational Value of the MPTP Non-Human Primate Model of Parkinsonism for Deep Brain Stimulation Research**
Tass, P. A., Qin, L., Hauptmann, C., Dovero, S., Bezard, E., Boraud, T., Meissner, W. G., IEEE
IEEE.2011: 663–66
- **Modeling of a segmented electrode for desynchronizing deep brain stimulation** *Frontiers in neuroengineering*
Buhlmann, J., Hofmann, L., Tass, P. A., Hauptmann, C.
2011; 4: 15
- **Desynchronization (computational neuroscience)** *Scholarpedia*
Popovych, O. V., Tass, P. A., Hauptmann, C.
2011; 6 (10): 1325
- **Modified pulse shapes for effective neural stimulation** *Frontiers in neuroengineering*
Hofmann, L., Ebert, M., Tass, P. A., Hauptmann, C., et al
2011; 4: 9
- **Chimera states induced by spatially modulated delayed feedback** *PHYSICAL REVIEW E*
Omel'chenko, O. E., Maistrenko, Y. L., Tass, P. A.
2010; 82 (6): 066201
- **Phase-locking swallows in coupled oscillators with delayed feedback** *PHYSICAL REVIEW E*
Popovych, O. V., Krachkovskiy, V., Tass, P. A.
2010; 82 (4): 046203
- **Restoration of segregated, physiological neuronal connectivity by desynchronizing stimulation** *JOURNAL OF NEURAL ENGINEERING*
Hauptmann, C., Tass, P. A.
2010; 7 (5): 056008
- **Periodic patterns in a ring of delay-coupled oscillators** *PHYSICAL REVIEW E*
Perlikowski, P., Yanchuk, S., Popovych, O. V., Tass, P. A.
2010; 82 (3): 036208
- **Data-driven approach to the estimation of connectivity and time delays in the coupling of interacting neuronal subsystems** *JOURNAL OF NEUROSCIENCE METHODS*
Silchenko, A. N., Adamchic, I., Pawelczyk, N., Hauptmann, C., Maarouf, M., Sturm, V., Tass, P. A.
2010; 191 (1): 32–44
- **Synchronization control of interacting oscillatory ensembles by mixed nonlinear delayed feedback** *PHYSICAL REVIEW E*
Popovych, O. V., Tass, P. A.
2010; 82 (2): 026204
- **Changes in Apraxia After Deep Brain Stimulation of the Nucleus Basalis Meynert in a Patient With Parkinson Dementia Syndrome** *MOVEMENT DISORDERS*
Barnikol, T. T., Pawelczyk, N. A., Barnikol, U. B., Kuhn, J., Lenartz, D., Sturm, V., Tass, P. A., Freund, H.
2010; 25 (10): 1519–20
- **STDP in oscillatory recurrent networks: theoretical conditions for desynchronization and applications to deep brain stimulation** *FRONTIERS IN COMPUTATIONAL NEUROSCIENCE*
Pfister, J., Tass, P. A.
2010; 4
- **The causal relationship between subcortical local field potential oscillations and Parkinsonian resting tremor** *JOURNAL OF NEURAL ENGINEERING*

- Tass, P., Smirnov, D., Karavaev, A., Barnikol, U., Barnikol, T., Adamchic, I., Hauptmann, C., Pawelczyk, N., Maarouf, M., Sturm, V., Freund, H., Bezruchko, B. 2010; 7 (1): 16009
- **External trial deep brain stimulation device for the application of desynchronizing stimulation techniques** *JOURNAL OF NEURAL ENGINEERING*
Hauptmann, C., Roulet, J., Niederhauser, J. J., Doell, W., Kirlangic, M. E., Lysyansky, B., Krachkovskiy, V., Bhatti, M. A., Barnikol, U. B., Sasse, L., Buehrle, C. P., Speckmann, E., Goetz, et al
2009; 6 (6): 066003
 - **Long-lasting desynchronization in rat hippocampal slice induced by coordinated reset stimulation** *PHYSICAL REVIEW E*
Tass, P. A., Silchenko, A. N., Hauptmann, C., Barnikol, U. B., Speckmann, E.
2009; 80 (1): 011902
 - **Cumulative and after-effects of short and weak coordinated reset stimulation: a modeling study** *JOURNAL OF NEURAL ENGINEERING*
Hauptmann, C., Tass, P. A.
2009; 6 (1): 016004
 - **Anti-kindling achieved by stimulation targeting slow synaptic dynamics** *RESTORATIVE NEUROLOGY AND NEUROSCIENCE*
Tass, P. A., Hauptmann, C.
2009; 27 (6): 589–609
 - **Tremor entrainment by patterned low-frequency stimulation** *PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A-MATHEMATICAL PHYSICAL AND ENGINEERING SCIENCES*
Barnikol, U. B., Popovych, O. V., Hauptmann, C., Sturm, V., Freund, H., Tass, P. A.
2008; 366 (1880): 3545–73
 - **Theme issue 'biomedical applications of systems biology and biological physics' - Preface** *PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A-MATHEMATICAL PHYSICAL AND ENGINEERING SCIENCES*
Mosekilde, E., Tass, P. A.
2008; 366 (1880): 3437–44
 - **Coexistence of numerous synchronized and desynchronized states in a model of two phase oscillators coupled with delay** *INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS*
Lysyansky, B., Maistrenko, Y. L., Tass, P. A.
2008; 18 (6): 1791–1800
 - **Collective dynamics of globally coupled phase oscillators under multisite delayed feedback stimulation** *PHYSICA D-NONLINEAR PHENOMENA*
Omel'chenko, O. E., Hauptmann, C., Maistrenko, Y. L., Tass, P. A.
2008; 237 (3): 365–84
 - **Modeling nonlinear oscillatory systems and diagnostics of coupling between them using chaotic time series analysis: applications in neurophysiology**
Bezruchko, B. P., Ponomarenko, V. I., Prokhorov, M. D., Smirnov, D. A., Tass, P. A.
TURPION LTD.2008: 304–10
 - **Chimera states: The natural link between coherence and incoherence** *PHYSICAL REVIEW LETTERS*
Omel'chenko, O. E., Maistrenko, Y. L., Tass, P. A.
2008; 100 (4): 044105
 - **Computational modeling of paroxysmal depolarization shifts in neurons induced by the glutamate release from astrocytes** *BIOLOGICAL CYBERNETICS*
Silchenko, A. N., Tass, P. A.
2008; 98 (1): 61–74
 - **Reshaping connectivity patterns by controlling the collective dynamics of bursting neurons**
Hauptmann, C., Tass, P. A., Robnik, M., Romanovski, V. G.
AMER INST PHYSICS.2008: 80-89
 - **The generation of Parkinsonian tremor as revealed by directional coupling analysis** *EPL*
Smirnov, D. A., Barnikol, U. B., Barnikol, T. T., Bezruchko, B. P., Hauptmann, C., Buehrle, C., Maarouf, M., Sturm, V., Freund, H. J., Tass, P. A.
2008; 83 (2)
 - **Impact of Nonlinear Delayed Feedback on Synchronized Oscillators** *JOURNAL OF BIOLOGICAL PHYSICS*
Popovych, O. V., Hauptmann, C., Tass, P. A.

2008; 34 (3-4): 367-79

- **Control of spatially patterned synchrony with multisite delayed feedback** *PHYSICAL REVIEW E*
Hauptmann, C., Omel'chenko, O., Popovych, O. V., Maistrenko, Y., Tass, P. A.
2007; 76 (6): 066209
- **Timing of V1/V2 and V5+ activations during coherent motion of dots: An MEG study** *NEUROIMAGE*
Prieto, E., Barnikol, U. B., Soler, E., Dolan, K., Hesselmann, G., Mohlberg, H., Amunts, K., Zilles, K., Niedeggen, M., Tass, P. A.
2007; 37 (4): 1384-95
- **Desynchronizing the abnormally synchronized neural activity in the subthalamic nucleus: a modeling study** *EXPERT REVIEW OF MEDICAL DEVICES*
Hauptmann, C., Popovych, O., Tass, P. A.
2007; 4 (5): 633-50
- **Response clustering in transient stochastic synchronization and desynchronization of coupled neuronal bursters** *PHYSICAL REVIEW E*
Neiman, A. B., Russell, D. F., Yakusheva, T. A., DiLullo, A., Tass, P. A.
2007; 76 (2): 021908
- **Twofold impact of delayed feedback on coupled oscillators** *INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS*
Popovych, O. V., Krachkovskiy, V., Tass, P. A.
2007; 17 (7): 2517-30
- **Demand-controlled desynchronization of oscillatory networks by means of a multisite delayed feedback stimulation** *COMPUTING AND VISUALIZATION IN SCIENCE*
Hauptmann, C., Popovych, O., Tass, P. A.
2007; 10 (2): 71-78
- **Multistability in the Kuramoto model with synaptic plasticity** *PHYSICAL REVIEW E*
Maistrenko, Y. L., Lysyansky, B., Hauptmann, C., Burylko, O., Tass, P. A.
2007; 75 (6): 066207
- **Therapeutic rewiring by means of desynchronizing brain stimulation**
Hauptmann, C., Tass, P. A.
ELSEVIER SCI LTD.2007: 173-81
- **Subthalamic-thalamic DBS in a case with spinocerebellar ataxia type 2 and severe tremor - A unusual clinical benefit** *MOVEMENT DISORDERS*
Freund, H., Barnikol, U. B., Nolte, D., Treuer, H., Auburger, G., Tass, P. A., Samii, M., Sturm, V.
2007; 22 (5): 732-35
- **swLORETA: a novel approach to robust source localization and synchronization tomography** *PHYSICS IN MEDICINE AND BIOLOGY*
Palmero-Soler, E., Dolan, K., Hadamschek, V., Tass, P. A.
2007; 52 (7): 1783-1800
- **Therapeutic modulation of synaptic connectivity with desynchronizing brain stimulation** *INTERNATIONAL JOURNAL OF PSYCHOPHYSIOLOGY*
Tass, P. A., Hauptmann, C.
2007; 64 (1): 53-61
- **A new toolbox for combining magnetoencephalographic source analysis and cyto architectonic probabilistic data for anatomical classification of dynamic brain activity** *NEUROIMAGE*
Dammers, J., Mohlberg, H., Boers, F., Tass, P., Amunts, K., Mathiak, K.
2007; 34 (4): 1577-87
- **Controlling synchrony in oscillatory networks with a separate stimulation-registration setup** *EPL*
Pyragas, K., Popovych, O. V., Tass, P. A.
2007; 80 (4)
- **Control of Synchronization in Oscillatory Neural Networks** *Handbook of Chaos Control*
Tass, P. A., Hauptmann, C., Popovych, O. V.
Wiley Online Library.2007; 2nd : 653-682
- **Phase resetting in medicine and biology: stochastic modelling and data analysis**

-
- Tass, P. A.
Springer Science & Business Media.2007
- **Desynchronization in networks of globally coupled neurons with dendritic dynamics** *JOURNAL OF BIOLOGICAL PHYSICS*
Majtanik, M., Dolan, K., Tass, P. A.
2006; 32 (3-4): 307–33
 - **Model-based development of desynchronizing brain stimulation techniques**
Tass, P.
ELSEVIER SCIENCE BV.2006: 297
 - **Control of neuronal synchrony by nonlinear delayed feedback** *BIOLOGICAL CYBERNETICS*
Popovych, O. V., Hauptmann, C., Tass, P. A.
2006; 95 (1): 69–85
 - **Deep brain stimulation - A neurosurgical approach to modulate brain function; Its current use in neurological disorders; Its promise in psychiatric disorders**
Sturm, V., Schlaepfer, T., Klosterkoetter, W., Freund, H., Lenartz, D., Tass, P. A.
CAMBRIDGE UNIV PRESS.2006: S55-S56
 - **Development of therapeutic brain stimulation techniques with methods from nonlinear dynamics and statistical physics** *INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS*
Tass, P. A., Hauptmann, C., Popovych, O. V.
2006; 16 (7): 1889–1911
 - **Desynchronization and decoupling of interacting oscillators by nonlinear delayed feedback** *INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS*
Popovych, O. V., Hauptmann, C., Tass, P. A.
2006; 16 (7): 1977–87
 - **Stimulus-locked responses of two phase oscillators coupled with delayed feedback** *PHYSICAL REVIEW E*
Krachkovskiy, V., Popovych, O. V., Tass, P. A.
2006; 73 (6): 066220
 - **Pattern reversal visual evoked responses of V1/V2 and V5/MT as revealed by MEG combined with probabilistic cytoarchitectonic maps** *NEUROIMAGE*
Barnikol, U. B., Amunts, K., Dammers, J., Mohlberg, H., Fieseler, T., Malikovic, A., Zilles, K., Niedeggen, M., Tass, P. A.
2006; 31 (1): 86–108
 - **Long-term anti-kindling effects of desynchronizing brain stimulation: a theoretical study** *BIOLOGICAL CYBERNETICS*
Tass, P. A., Majtanik, M.
2006; 94 (1): 58–66
 - **Long-term anti-kindling effects induced by short-term, weak desynchronizing stimulation** *Nonlinear Phenomena in Complex Systems*
Tass, P., Hauptmann, C., et al
2006; 9: 298-312
 - **Effectively desynchronizing deep brain stimulation based on a coordinated delayed feedback stimulation via several sites: a computational study** *BIOLOGICAL CYBERNETICS*
Hauptmann, C., Popovych, O., Tass, P. A.
2005; 93 (6): 463–70
 - **Phase resetting and transient desynchronization in networks of globally coupled phase oscillators with inertia** *PHYSICA D-NONLINEAR PHENOMENA*
Dolan, K., Majtanik, M., Tass, P. A.
2005; 211 (1-2): 128–38
 - **Chaotic attractor in the Kuramoto model** *INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS*
Maistrenko, Y. L., Popovych, O. V., Tass, P. A.
2005; 15 (11): 3457–66
 - **Delayed feedback control of synchronization in locally coupled neuronal networks**
Hauptmann, C., Popovych, O., Tass, P. A.
ELSEVIER SCIENCE BV.2005: 759–67

- **Multisite coordinated delayed feedback for an effective desynchronization of neuronal networks**
Hauptmann, C., Popovych, O., Tass, P. A.
WORLD SCIENTIFIC PUBL CO PTE LTD.2005: 307–19
- **Phase chaos in coupled oscillators** *PHYSICAL REVIEW E*
Popovych, O. V., Maistrenko, Y. L., Tass, P. A.
2005; 71 (6): 065201
- **Desynchronization of coupled electrochemical oscillators with pulse stimulations** *PHYSICAL REVIEW E*
Zhai, Y. M., Kiss, I. Z., Tass, P. A., Hudson, J. L.
2005; 71 (6): 065202
- **Estimation of the transmission time of stimulus-locked responses: modelling and stochastic phase resetting analysis** *PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES*
Tass, P. A.
2005; 360 (1457): 995–99
- **Effective desynchronization by nonlinear delayed feedback** *PHYSICAL REVIEW LETTERS*
Popovych, O. V., Hauptmann, C., Tass, P. A.
2005; 94 (16): 164102
- **Desynchronization and chaos in the Kuramoto model**
Maistrenko, Y. L., Popovych, O., Tass, P. A., Chazottes, Fernandez, B.
SPRINGER-VERLAG BERLIN.2005: 285–306
- **Multisite coordinated reset: Novel deep brain stimulation for the treatment of tremor**
Hauptmann, C., Barnikol, U. B., Schiek, M., Silex, C., Popovych, O., Voges, J., Sturm, Freund, H. J., Tass, P. A., Verlag Ferdinand Schoningh
VERLAG FERDINAND SCHONINGH.2005: 115-116
- **Demand-controlled desynchronization of brain rhythms by means of nonlinear delayed feedback**
Popovych, O. V., Hauptmann, C., Tass, P. A., IEEE
IEEE.2005: 7656-7659
- **Transmission of stimulus-locked responses in two oscillators with bistable coupling** *BIOLOGICAL CYBERNETICS*
Tass, P. A.
2004; 91 (4): 203–11
- **Mechanism of desynchronization in the finite-dimensional Kuramoto model** *PHYSICAL REVIEW LETTERS*
Maistrenko, Y., Popovych, O., Burylko, O., Tass, P. A.
2004; 93 (8): 084102
- **Transmission of stimulus-locked responses in two coupled phase oscillators** *PHYSICAL REVIEW E*
Tass, P. A.
2004; 69 (5): 051909
- **Transmission times of stimulus-locked responses of oscillators cannot be estimated by averaging across trials** *FLUCTUATION AND NOISE LETTERS*
Tass, P. A.
2004; 4 (1): L119–L128
- **Desynchronization in networks of globally coupled neurons: effects of inertia**
Majtanik, M., Dolan, K., Tass, P. A., ieece
IEEE.2004: 1481-1486
- **A model of desynchronizing deep brain stimulation with a demand-controlled coordinated reset of neural subpopulations** *BIOLOGICAL CYBERNETICS*
Tass, P. A.
2003; 89 (2): 81–88
- **Obsessive-compulsive disorder: Development of demand controlled deep brain stimulation with methods from Stochastic phase resetting**
Tass, P. A., Klosterkotter, J., Schneider, F., Lenartz, D., Koulousakis, A., Sturm
NATURE PUBLISHING GROUP.2003: S27–S34

- **Stochastic phase resetting of two coupled phase oscillators stimulated at different times** *PHYSICAL REVIEW E*
Tass, P. A.
2003; 67 (5): 051902
- **Tapping in to the brain** *PHYSICS WORLD*
[Anonymous]
2003; 16 (4): 3
- **Neurology - Lockstep neurons caught in the act** *NEW SCIENTIST*
Mullins, J.
2003; 177 (2387): 26
- **Stochastic phase resetting of stimulus-locked responses of two coupled oscillators: Transient response clustering, synchronization, and desynchronization**
Tass, P. A.
AMER INST PHYSICS.2003: 364–76
- **Synchronization tomography: A method for three-dimensional localization of phase synchronized neuronal populations in the human brain using magnetoencephalography** *PHYSICAL REVIEW LETTERS*
Tass, P. A., Fieseler, T., Dammers, J., Dolan, K., Morosan, P., Majtanik, M., Boers, F., Muren, A., Zilles, K., Fink, G. R.
2003; 90 (8): 088101
- **Desynchronization by means of a coordinated reset of neural sub-populations - A novel technique for demand-controlled deep brain stimulation**
Tass, P. A.
PROGRESS THEORETICAL PHYSICS PUBLICATION OFFICE.2003: 281–96
- **Development of demand-controlled deep brain stimulation techniques based on stochastic phase resetting**
Tass, P. A., Bezrukov, S. M.
AMER INST PHYSICS.2003: 242-249
- **Development of bipolar deep brain stimulation techniques based on stochastic phase resetting** *Nonlinear Dynamics and the Spatiotemporal Principles of Biology*
Tass, P.
2003; 88: 207-224
- **Inferring asymmetric relations between interacting neuronal oscillators**
Cimponeriu, L., Rosenblum, M. G., Fieseler, T., Dammers, J., Schiek, M., Majtanik, M., Morosan, P., Bezerianos, A., Tass, P. A.
PROGRESS THEORETICAL PHYSICS PUBLICATION OFFICE.2003: 22–36
- **Effective desynchronization with bipolar double-pulse stimulation** *PHYSICAL REVIEW E*
Tass, P. A.
2002; 66 (3): 036226
- **Desynchronization of brain rhythms with soft phase-resetting techniques** *BIOLOGICAL CYBERNETICS*
Tass, P. A.
2002; 87 (2): 102–15
- **Stimulus-locked transient phase dynamics, synchronization and desynchronization of two oscillators** *EUROPHYSICS LETTERS*
Tass, P. A.
2002; 59 (2): 199–205
- **Stochastic synchronization and phase resetting in the human brain: Novel methods for the detection and manipulation of cerebral synchronization**
Tass, P. A.
ELSEVIER SCIENCE BV.2002: 62
- **Effective desynchronization with a stimulation technique based on soft phase resetting** *EUROPHYSICS LETTERS*
Tass, P. A.
2002; 57 (2): 164–70
- **Synchronization Tomography: A Method for Three-Dimensional Localization of Phase Synchronized Neuronal Populations in the Human Brain using Magnetoencephalography** *Synchronization Tomography: A Method for Three-Dimensional Localization of Phase Synchronized Neuronal Populations in the Human Brain using Magnetoencephalography*

-
- Tass, P., et al
2002; 90 (8): 088101-1-4
- **Estimation of synchronization from noisy data with application to human brain activity** *Stochastic Processes in Physics, Chemistry, and Biology*
Rosenblum, M. G., Tass, P. A., Kurths, J.
Springer.2002: 202–211
 - **Synergetics of the nervous system: from basic principles to therapy** *Synergetics of the nervous system: from basic principles to therapy*
Tass, P. A.
2002; 5 (4): 470-478
 - **Desynchronizing double-pulse phase resetting and application to deep brain stimulation** *BIOLOGICAL CYBERNETICS*
Tass, P. A.
2001; 85 (5): 343–54
 - **Effective desynchronization with a resetting pulse train followed by a single pulse** *EUROPHYSICS LETTERS*
Tass, P. A.
2001; 55 (2): 171–77
 - **Synchronization tomography: Synchronization analysis of MEG current density solutions in a tapping task**
Tass, P. A., Fieseler, T., Majtanik, M., Dammers, J., Morosan, P., Boers, F., Muren, A., Zilles, K., Fink, G. R.
ACADEMIC PRESS INC ELSEVIER SCIENCE.2001: S1266
 - **Improving MEG's source localization accuracy by using continuous head motion detection**
Dammers, J., Fieseler, T., Boers, F., Muren, A., Tass, P. A.
ACADEMIC PRESS INC ELSEVIER SCIENCE.2001: S104
 - **An MEG study on the temporal dynamics of deriving numerosity and shape from identical visual displays**
Morosan, P., Dammers, J., Majtanik, M., Gurd, J., Marshall, J. C., Boers, F., Muren, A., Zafiris, O., Zilles, K., Fink, G. R., Tass, P. A.
ACADEMIC PRESS INC ELSEVIER SCIENCE.2001: S334
 - **Synchronization tomography: Synchronization analysis of MEG current density solutions tested by model calculations**
Fieseler, T., Dammers, J., Zilles, K., Tass, P. A.
ACADEMIC PRESS INC ELSEVIER SCIENCE.2001: S117
 - **Synchronization tomography: Synchronization analysis of MEG current density solutions in patients with Parkinson's disease**
Tass, P. A., Volkman, J., Fieseler, T., Majtanik, M., Morosan, P., Dammers, J., Boers, F., Muren, A., Sturm, Zilles, K., Freund, H. J.
ACADEMIC PRESS INC ELSEVIER SCIENCE.2001: S846
 - **New treatment for Parkinson's disease** *PHYSICS WORLD*
Cartlidge, E.
2001; 14 (3): 6
 - **Effective desynchronization by means of double-pulse phase resetting** *EUROPHYSICS LETTERS*
Tass, P. A.
2001; 53 (1): 15–21
 - **Phase synchronization: from theory to data analysis** *Handbook of biological physics*
Rosenblum, M. G., Pikovsky, A., Schafer, C., Kurths, J., Tass, P. A.
2001; 4: 93-94
 - **Cortico-muscular synchronization during isometric muscle contraction in humans as revealed by magnetoencephalography** *JOURNAL OF PHYSIOLOGY-LONDON*
Gross, J., Tass, P. A., Salenius, S., Hari, R., Freund, H. J., Schnitzler, A.
2000; 527 (3): 623–31
 - **Stochastic phase resetting: A theory for deep brain stimulation**
Tass, P. A.
PROGRESS THEORETICAL PHYSICS PUBLICATION OFFICE.2000: 301–13
-

- **Detection of phase synchronization from the data: Application to physiology**
Rosenblum, M. G., Pikovsky, A. S., Schafer, C., Tass, P., Kurths, J., Broomhead, D. S., Luchinskaya, E. A., McClintock, P. V., Mullin, T.
AMER INST PHYSICS.2000: 154-161
- **Phase synchronization may reveal communication pathways in brain activity** *PHYSICS TODAY*
Fitzgerald, R.
1999; 52 (3): 17-19
- **The role of ventral medial wall motor areas in bimanual co-ordination - A combined lesion and activation study** *BRAIN*
Stephan, K. M., Binkofski, F., Halsband, U., Dohle, C., Wunderlich, G., Schnitzler, A., Tass, P., Posse, S., Herzog, H., Sturm, Zilles, K., Seitz, R. J., Freund, H. J.
1999; 122: 351-68
- **Synchronization in noisy systems and cardiorespiratory interaction** *IEEE ENGINEERING IN MEDICINE AND BIOLOGY MAGAZINE*
Rosenblum, M. G., Kurths, J., Pikovsky, A., Schafer, C., Tass, P., Abel, H. H.
1998; 17 (6): 46-53
- **Detection of $n : m$ phase locking from noisy data: Application to magnetoencephalography** *PHYSICAL REVIEW LETTERS*
Tass, P., Rosenblum, M. G., Weule, J., Kurths, J., Pikovsky, A., Volkmann, J., Schnitzler, A., Freund, H. J.
1998; 81 (15): 3291-94
- **Phase and frequency shifts in a population of phase oscillators** *PHYSICAL REVIEW E*
Tass, P.
1997; 56 (2): 2043-60
- **Oscillatory cortical activity during visual hallucinations** *JOURNAL OF BIOLOGICAL PHYSICS*
Tass, P.
1997; 23 (1): 21-66
- **Delay-induced transitions in visually guided movements** *PHYSICAL REVIEW E*
Tass, P., Kurths, J., Rosenblum, M. G., Guasti, G., Hefter, H.
1996; 54 (3): R2224-R2227
- **Synchronization in networks of limit cycle oscillators** *ZEITSCHRIFT FUR PHYSIK B-CONDENSED MATTER*
Tass, P., Haken, H.
1996; 100 (2): 303-20
- **Resetting biological oscillators - A stochastic approach** *JOURNAL OF BIOLOGICAL PHYSICS*
Tass, P.
1996; 22 (1): 27-64
- **Synchronized oscillations in the visual cortex - A synergetic model** *BIOLOGICAL CYBERNETICS*
Tass, P., Haken, H.
1996; 74 (1): 31-39
- **Phase resetting associated with changes of burst shape** *JOURNAL OF BIOLOGICAL PHYSICS*
Tass, P.
1996; 22 (3): 125-55
- **Phase and frequency shifts of two nonlinearly coupled oscillators** *ZEITSCHRIFT FUR PHYSIK B-CONDENSED MATTER*
Tass, P.
1995; 99 (1): 111-21
- **Cortical pattern formation during visual hallucinations** *JOURNAL OF BIOLOGICAL PHYSICS*
Tass, P.
1995; 21 (3): 177-210
- **A THEORETICAL-MODEL OF SINUSOIDAL FOREARM TRACKING WITH DELAYED VISUAL FEEDBACK** *JOURNAL OF BIOLOGICAL PHYSICS*
TASS, P., WUNDERLIN, A., SCHANZ, M.
1995; 21 (2): 83-112