Gareth R Barnes

List of Publications by Year in descending order

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Version: 2024-02-01

25034 26613 13,889 164 57 107 citations h-index g-index papers 192 192 192 9180 docs citations times ranked citing authors all docs

#	Article	IF	Citations
1	Magnetic Field Mapping and Correction for Moving OP-MEG. IEEE Transactions on Biomedical Engineering, 2022, 69, 528-536.	4.2	26
2	Interference suppression techniques for OPM-based MEG: Opportunities and challenges. NeuroImage, 2022, 247, 118834.	4.2	35
3	Spherical harmonic based noise rejection and neuronal sampling with multi-axis OPMs. NeuroImage, 2022, 258, 119338.	4.2	20
4	The Role of Hippocampal–Ventromedial Prefrontal Cortex Neural Dynamics in Building Mental Representations. Journal of Cognitive Neuroscience, 2021, 33, 89-103.	2.3	24
5	Mouth magnetoencephalography: A unique perspective on the human hippocampus. Neurolmage, 2021, 225, 117443.	4.2	56
6	Watching Movies Unfold, a Frame-by-Frame Analysis of the Associated Neural Dynamics. ENeuro, 2021, 8, ENEURO.0099-21.2021.	1.9	O
7	Testing covariance models for MEG source reconstruction of hippocampal activity. Scientific Reports, 2021, 11, 17615.	3.3	8
8	Laminar dynamics of high amplitude beta bursts in human motor cortex. Neurolmage, 2021, 242, 118479.	4.2	45
9	Using OPMs to measure neural activity in standing, mobile participants. Neurolmage, 2021, 244, 118604.	4.2	48
10	Modelling optically pumped magnetometer interference in MEG as a spatially homogeneous magnetic field. Neurolmage, 2021, 244, 118484.	4.2	36
11	The Effect of Object Type on Building Scene Imagery—an MEG Study. Frontiers in Human Neuroscience, 2020, 14, 592175.	2.0	5
12	Pragmatic spatial sampling for wearable MEG arrays. Scientific Reports, 2020, 10, 21609.	3.3	23
13	Representation of probabilistic outcomes during risky decision-making. Nature Communications, 2020, 11, 2419.	12.8	12
14	vmPFC Drives Hippocampal Processing during Autobiographical Memory Recall Regardless of Remoteness. Cerebral Cortex, 2020, 30, 5972-5987.	2.9	71
15	Optically pumped magnetoencephalography in epilepsy. Annals of Clinical and Translational Neurology, 2020, 7, 397-401.	3.7	43
16	Estimates of cortical column orientation improve MEG source inversion. NeuroImage, 2020, 216, 116862.	4.2	11
17	Wearable neuroimaging: Combining and contrasting magnetoencephalography and electroencephalography. NeuroImage, 2019, 201, 116099.	4.2	82
18	Highâ€precision magnetoencephalography for reconstructing amygdalar and hippocampal oscillations during prediction of safety and threat. Human Brain Mapping, 2019, 40, 4114-4129.	3.6	19

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19	Dataâ€driven model optimization for optically pumped magnetometer sensor arrays. Human Brain Mapping, 2019, 40, 4357-4369.	3.6	16
20	Using optically pumped magnetometers to measure magnetoencephalographic signals in the human cerebellum. Journal of Physiology, 2019, 597, 4309-4324.	2.9	31
21	Balanced, bi-planar magnetic field and field gradient coils for field compensation in wearable magnetoencephalography. Scientific Reports, 2019, 9, 14196.	3.3	72
22	A tool for functional brain imaging with lifespan compliance. Nature Communications, 2019, 10, 4785.	12.8	96
23	Imaging the human hippocampus with optically-pumped magnetoencephalography. NeuroImage, 2019, 203, 116192.	4.2	52
24	Human motor cortical beta bursts relate to movement planning and response errors. PLoS Biology, 2019, 17, e3000479.	5.6	134
25	Optically pumped magnetometers: From quantum origins to multi-channel magnetoencephalography. Neurolmage, 2019, 199, 598-608.	4.2	186
26	Towards OPM-MEG in a virtual reality environment. NeuroImage, 2019, 199, 408-417.	4.2	87
27	Updating Dynamic Noise Models With Moving Magnetoencephalographic (MEG) Systems. IEEE Access, 2019, 7, 10093-10102.	4.2	5
28	The Neural Dynamics of Novel Scene Imagery. Journal of Neuroscience, 2019, 39, 4375-4386.	3.6	74
29	Neural Competitive Queuing of Ordinal Structure Underlies Skilled Sequential Action. Neuron, 2019, 101, 1166-1180.e3.	8.1	42
30	IFCN-endorsed practical guidelines for clinical magnetoencephalography (MEG). Clinical Neurophysiology, 2018, 129, 1720-1747.	1.5	111
31	Magnetoencephalographic Correlates of Perceptual State During Auditory Bistability. Scientific Reports, 2018, 8, 976.	3.3	11
32	Moving magnetoencephalography towards real-world applications with a wearable system. Nature, 2018, 555, 657-661.	27.8	795
33	Non-invasive laminar inference with MEG: Comparison of methods and source inversion algorithms. Neurolmage, 2018, 167, 372-383.	4.2	47
34	Cognitive neuroscience using wearable magnetometer arrays: Non-invasive assessment of language function. Neurolmage, 2018, 181, 513-520.	4.2	56
35	Reply to "Clinical practice guidelines or clinical research guidelines?― Clinical Neurophysiology, 2018, 129, 2056-2057.	1.5	0
36	Quantifying the performance of MEG source reconstruction using resting state data. Neurolmage, 2018, 181, 453-460.	4.2	13

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37	A bi-planar coil system for nulling background magnetic fields in scalp mounted magnetoencephalography. Neurolmage, 2018, 181, 760-774.	4.2	143
38	Lamina-specific cortical dynamics in human visual and sensorimotor cortices. ELife, 2018, 7, .	6.0	45
39	A new generation of magnetoencephalography: Room temperature measurements using optically-pumped magnetometers. Neurolmage, 2017, 149, 404-414.	4.2	329
40	Whole-Brain Neural Dynamics of Probabilistic Reward Prediction. Journal of Neuroscience, 2017, 37, 3789-3798.	3.6	18
41	Simultaneous estimation of brain structure and function with MEG/EEG data. , 2017, , .		0
42	Dissecting the Function of Hippocampal Oscillations in a Human Anxiety Model. Journal of Neuroscience, 2017, 37, 6869-6876.	3.6	39
43	Using generative models to make probabilistic statements about hippocampal engagement in MEG. Neurolmage, 2017, 149, 468-482.	4.2	42
44	Reconstructing anatomy from electro-physiological data. Neurolmage, 2017, 163, 480-486.	4.2	5
45	Flexible head-casts for high spatial precision MEG. Journal of Neuroscience Methods, 2017, 276, 38-45.	2.5	69
46	Working Memory Replay Prioritizes Weakly Attended Events. ENeuro, 2017, 4, ENEURO.0171-17.2017.	1.9	11
47	Non-linear Parameter Estimates from Non-stationary MEG Data. Frontiers in Neuroscience, 2016, 10, 366.	2.8	7
48	Gamma Frequency and the Spatial Tuning of Primary Visual Cortex. PLoS ONE, 2016, 11, e0157374.	2.5	6
49	On the Potential of a New Generation of Magnetometers for MEG: A Beamformer Simulation Study. PLoS ONE, 2016, 11, e0157655.	2.5	138
50	Sustained Magnetic Responses in Temporal Cortex Reflect Instantaneous Significance of Approaching and Receding Sounds. PLoS ONE, 2015, 10, e0134060.	2.5	8
51	Resting state MEG oscillations show long-range temporal correlations of phase synchrony that break down during finger movement. Frontiers in Physiology, 2015, 6, 183.	2.8	22
52	The Frontal Control of Stopping. Cerebral Cortex, 2015, 25, 4392-4406.	2.9	44
53	Ventromedial prefrontal cortex drives hippocampal theta oscillations induced by mismatch computations. Neurolmage, 2015, 120, 362-370.	4.2	59
54	Dynamic recruitment of resting state sub-networks. Neurolmage, 2015, 115, 85-95.	4.2	93

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55	Neuromagnetic effects of pico-Tesla stimulation. Physiological Measurement, 2015, 36, 1901-1912.	2.1	8
56	Structure predicts function: Combining non-invasive electrophysiology with in-vivo histology. NeuroImage, 2015, 108, 377-385.	4.2	23
57	Temporal structure in associative retrieval. ELife, 2015, 4, .	6.0	56
58	Reading Front to Back: MEG Evidence for Early Feedback Effects During Word Recognition. Cerebral Cortex, 2014, 24, 817-825.	2.9	82
59	Discrimination of cortical laminae using MEG. Neurolmage, 2014, 102, 885-893.	4.2	65
60	Optimising beamformer regions of interest analysis. NeuroImage, 2014, 102, 945-954.	4.2	8
61	Magnetoencephalographic Activity Related to Conscious Perception Is Stable within Individuals across Years but Not between Individuals. Journal of Cognitive Neuroscience, 2014, 26, 840-853.	2.3	6
62	Medial prefrontal theta phase coupling during spatial memory retrieval. Hippocampus, 2014, 24, 656-665.	1.9	99
63	Modulation of alpha and gamma oscillations related to retrospectively orienting attention within working memory. European Journal of Neuroscience, 2014, 40, 2399-2405.	2.6	70
64	NEURAL BASES OF MUSICAL HALLUCINATIONS. Journal of Neurology, Neurosurgery and Psychiatry, 2014, 85, e3-e3.	1.9	3
65	Measuring temporal, spectral and spatial changes in electrophysiological brain network connectivity. Neurolmage, 2014, 91, 282-299.	4.2	130
66	Algorithmic procedures for Bayesian MEG/EEG source reconstruction in SPM. NeuroImage, 2014, 84, 476-487.	4.2	130
67	Theta oscillations orchestrate medial temporal lobe and neocortex in remembering autobiographical memories. Neurolmage, 2014, 85, 730-737.	4.2	91
68	Distinct MEG correlates of conscious experience, perceptual reversals and stabilization during binocular rivalry. Neurolmage, 2014, 100, 161-175.	4.2	29
69	Between Thought and Expression, a Magnetoencephalography Study of the "Tip-of-the-Tongue― Phenomenon. Journal of Cognitive Neuroscience, 2014, 26, 2210-2223.	2.3	8
70	Does function fit structure? A ground truth for non-invasive neuroimaging. NeuroImage, 2014, 94, 89-95.	4.2	8
71	High precision anatomy for MEG. Neurolmage, 2014, 86, 583-591.	4.2	80
72	A brain basis for musical hallucinations. Cortex, 2014, 52, 86-97.	2.4	62

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73	Dynamic state allocation for MEG source reconstruction. NeuroImage, 2013, 77, 77-92.	4.2	64
74	Synchronization of Medial Temporal Lobe and Prefrontal Rhythms in Human Decision Making. Journal of Neuroscience, 2013, 33, 442-451.	3.6	82
75	Set-level threshold-free tests on the intrinsic volumes of SPMs. Neurolmage, 2013, 68, 133-140.	4.2	1
76	Changes in the location of cortico-muscular coherence following stroke. NeuroImage: Clinical, 2013, 2, 50-55.	2.7	62
77	Early Visual Responses Predict Conscious Face Perception within and between Subjects during Binocular Rivalry. Journal of Cognitive Neuroscience, 2013, 25, 969-985.	2.3	48
78	Good practice for conducting and reporting MEG research. Neurolmage, 2013, 65, 349-363.	4.2	604
79	Dynamic causal modelling of lateral interactions in the visual cortex. Neurolmage, 2013, 66, 563-576.	4.2	58
80	Reading therapy strengthens top–down connectivity in patients with pure alexia. Brain, 2013, 136, 2579-2591.	7.6	41
81	The right hemisphere supports but does not replace left hemisphere auditory function in patients with persisting aphasia. Brain, 2013, 136, 1901-1912.	7.6	40
82	Cortical surface reconstruction based on MEG data and spherical harmonics., 2013, 2013, 6449-52.		7
83	Population Level Inference for Multivariate MEG Analysis. PLoS ONE, 2013, 8, e71305.	2.5	7
84	The chronometry of risk processing in the human cortex. Frontiers in Neuroscience, 2013, 7, 146.	2.8	6
85	Random location of multiple sparse priors for solving the MEG/EEG inverse problem., 2012, 2012, 1534-7.		4
86	Movement-Related Changes in Local and Long-Range Synchronization in Parkinson's Disease Revealed by Simultaneous Magnetoencephalography and Intracranial Recordings. Journal of Neuroscience, 2012, 32, 10541-10553.	3.6	176
87	Single-subject oscillatory gamma responses in tinnitus. Brain, 2012, 135, 3089-3100.	7.6	84
88	Estimation of functional connectivity from electromagnetic signals and the amount of empirical data required. Neuroscience Letters, 2012, 513, 57-61.	2.1	23
89	Gamma band pitch responses in human auditory cortex measured with magnetoencephalography. Neurolmage, 2012, 59, 1904-1911.	4.2	32
90	Frequency-dependent functional connectivity within resting-state networks: An atlas-based MEG beamformer solution. Neurolmage, 2012, 59, 3909-3921.	4.2	408

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91	A general Bayesian treatment for MEG source reconstruction incorporating lead field uncertainty. Neurolmage, 2012, 60, 1194-1204.	4.2	31
92	Measuring functional connectivity in MEG: A multivariate approach insensitive to linear source leakage. Neurolmage, 2012, 63, 910-920.	4.2	333
93	Movement-Related Theta Rhythm in Humans: Coordinating Self-Directed Hippocampal Learning. PLoS Biology, 2012, 10, e1001267.	5.6	127
94	The Frequency of Visually Induced Gamma-Band Oscillations Depends on the Size of Early Human Visual Cortex. Journal of Neuroscience, 2012, 32, 1507-1512.	3.6	64
95	A Peak-Clustering Method for MEG Group Analysis to Minimise Artefacts Due to Smoothness. PLoS ONE, 2012, 7, e45084.	2.5	4
96	Functional Evidence for a Dual Route to Amygdala. Current Biology, 2012, 22, 129-134.	3.9	81
97	Source Reconstruction Accuracy of MEG and EEG Bayesian Inversion Approaches. PLoS ONE, 2012, 7, e51985.	2.5	83
98	Investigating the electrophysiological basis of resting state networks using magnetoencephalography. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16783-16788.	7.1	847
99	Measuring functional connectivity using MEG: Methodology and comparison with fcMRI. Neurolmage, 2011, 56, 1082-1104.	4.2	452
100	Controlling false positive rates in mass-multivariate tests for electromagnetic responses. Neurolmage, 2011, 56, 1072-1081.	4.2	20
101	The relationship between the visual evoked potential and the gamma band investigated by blind and semi-blind methods. NeuroImage, 2011, 56, 1059-1071.	4.2	33
102	MEG beamforming using Bayesian PCA for adaptive data covariance matrix regularization. NeuroImage, 2011, 57, 1466-1479.	4.2	134
103	Practical constraints on estimation of source extent with MEG beamformers. NeuroImage, 2011, 54, 2732-2740.	4.2	59
104	Retinotopic mapping of the primary visual cortex - a challenge for MEG imaging of the human cortex. European Journal of Neuroscience, 2011, 34, 652-661.	2.6	14
105	EEG and MEG Data Analysis in SPM8. Computational Intelligence and Neuroscience, 2011, 2011, 1-32.	1.7	500
106	Hippocampal Theta-Phase Modulation of Replay Correlates with Configural-Relational Short-Term Memory Performance: Figure 1 Journal of Neuroscience, 2011, 31, 7038-7042.	3.6	54
107	Neuronal network pharmacodynamics of GABAergic modulation in the human cortex determined using pharmacoâ€magnetoencephalography. Human Brain Mapping, 2010, 31, 581-594.	3.6	132
108	Identifying spatially overlapping local cortical networks with MEG. Human Brain Mapping, 2010, 31, 1003-1016.	3.6	25

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109	Language dominance and mapping based on neuromagnetic oscillatory changes: comparison with invasive procedures. Journal of Neurosurgery, 2010, 112, 528-538.	1.6	83
110	Decreased Gray Matter Concentration in the Lateral Geniculate Nuclei in Human Amblyopes. , $2010, 51, 1432.$		81
111	Investigating spatial specificity and data averaging in MEG. Neurolmage, 2010, 49, 525-538.	4.2	43
112	Optimized beamforming for simultaneous MEG and intracranial local field potential recordings in deep brain stimulation patients. NeuroImage, 2010, 50, 1578-1588.	4.2	123
113	MEG evidence that the central auditory system simultaneously encodes multiple temporal cues. European Journal of Neuroscience, 2009, 30, 1183-1191.	2.6	3
114	Effective electromagnetic noise cancellation with beamformers and synthetic gradiometry in shielded and partly shielded environments. Journal of Neuroscience Methods, 2009, 178, 120-127.	2.5	30
115	Can we observe collective neuronal activity from macroscopic aggregate signals?. Neurolmage, 2009, 44, 1290-1303.	4.2	16
116	Functional source separation applied to induced visual gamma activity. Human Brain Mapping, 2008, 29, 131-141.	3.6	28
117	Anticipatory eye movements evoked after active following versus passive observation of a predictable motion stimulus. Brain Research, 2008, 1245, 74-81.	2.2	13
118	Optimising experimental design for MEG beamformer imaging. NeuroImage, 2008, 39, 1788-1802.	4.2	213
119	Induced Gamma activity in primary visual cortex is related to luminance and not color contrast: An MEG study. Journal of Vision, 2008, 8, 4.	0.3	24
120	Neuromagnetic correlates of the fMRI BOLD response. International Congress Series, 2007, 1300, 325-328.	0.2	3
121	The spatial distribution and temporal dynamics of brain regions activated during the perception of object and non-object patterns. Neurolmage, 2007, 34, 371-383.	4.2	19
122	Beamformer reconstruction of correlated sources using a modified source model. Neurolmage, 2007, 34, 1454-1465.	4.2	148
123	Stimuli of varying spatial scale induce gamma activity with distinct temporal characteristics in human visual cortex. Neurolmage, 2007, 35, 518-530.	4.2	49
124	Population-level inferences for distributed MEG source localization under multiple constraints: Application to face-evoked fields. NeuroImage, 2007, 38, 422-438.	4.2	54
125	A verifiable solution to the MEG inverse problem. NeuroImage, 2006, 31, 623-626.	4.2	12
126	Evidence for Synergy Between Saccades and Smooth Pursuit During Transient Target Disappearance. Journal of Neurophysiology, 2006, 95, 418-427.	1.8	84

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127	The occluded onset pursuit paradigm: prolonging anticipatory smooth pursuit in the absence of visual feedback. Experimental Brain Research, 2006, 175, 11-20.	1.5	21
128	Smooth ocular pursuit during the transient disappearance of an accelerating visual target: the role of reflexive and voluntary control. Experimental Brain Research, 2006, 175, 1-10.	1.5	36
129	Quantitative differences in smooth pursuit and saccadic eye movements. Experimental Brain Research, 2006, 175, 596-608.	1.5	20
130	Abnormality of mismatch negativity in response to tone omission in dyslexic adults. Brain Research, 2006, 1077, 90-98.	2.2	8
131	Cortical Spreading Depression Is Neuroprotective: The Challenge of Basic Sciences. Headache, 2005, 45, 177-178.	3.9	5
132	Cortical Spreading Depression Is Neuroprotective: The Challenge of Basic Sciences-A Response. Headache, 2005, 45, 178-178.	3.9	0
133	A new approach to neuroimaging with magnetoencephalography. Human Brain Mapping, 2005, 25, 199-211.	3.6	465
134	Predicting the duration of ocular pursuit in humans. Experimental Brain Research, 2005, 160, 10-21.	1.5	22
135	Beamformer Analysis of MEG Data. International Review of Neurobiology, 2005, 68, 149-171.	2.0	231
136	Assessing interactions of linear and nonlinear neuronal sources using MEG beamformers: a proof of concept. Clinical Neurophysiology, 2005, 116, 1300-1313.	1.5	71
137	Distinct contrast response functions in striate and extra-striate regions of visual cortex revealed with magnetoencephalography (MEG). Clinical Neurophysiology, 2005, 116, 1716-1722.	1.5	33
138	The missing link: analogous human and primate cortical gamma oscillations. NeuroImage, 2005, 26, 13-17.	4.2	115
139	GLM-beamformer method demonstrates stationary field, alpha ERD and gamma ERS co-localisation with fMRI BOLD response in visual cortex. Neurolmage, 2005, 26, 302-308.	4.2	167
140	Imaging the dynamics of the auditory steady-state evoked response. Neuroscience Letters, 2005, 385, 195-197.	2.1	19
141	Real-time imaging of human cortical activity evoked by painful esophageal stimulation. Gastroenterology, 2005, 128, 610-619.	1.3	81
142	Attention and selection for predictive smooth pursuit eye movements. Cognitive Brain Research, 2005, 25, 688-700.	3.0	18
143	Predictive Smooth Ocular Pursuit During the Transient Disappearance of a Visual Target. Journal of Neurophysiology, 2004, 92, 578-590.	1.8	64
144	Anticipatory VOR Suppression Induced by Visual and Nonvisual Stimuli in Humans. Journal of Neurophysiology, 2004, 92, 1501-1511.	1.8	14

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145	Can you tell your clunis from your cubitus? A benchmark for functional imaging. BMJ: British Medical Journal, 2004, 329, 1492.2-1493.	2.3	2
146	Induced visual illusions and gamma oscillations in human primary visual cortex. European Journal of Neuroscience, 2004, 20, 587-592.	2.6	133
147	Spatio-temporal Imaging of Cortical Desynchronization in Migraine Visual Aura: A Magnetoencephalography Case Study. Headache, 2004, 44, 204-208.	3.9	43
148	Realistic spatial sampling for MEG beamformer images. Human Brain Mapping, 2004, 23, 120-127.	3.6	89
149	Visual word recognition: the first half second. Neurolmage, 2004, 22, 1819-1825.	4.2	168
150	Co-registration of magnetoencephalography with magnetic resonance imaging using bite-bar-based fiducials and surface-matching. Clinical Neurophysiology, 2004, 115, 691-698.	1.5	98
151	The temporal frequency tuning of human visual cortex investigated using synthetic aperture magnetometry. Neurolmage, 2004, 21, 1542-1553.	4.2	103
152	Dissociating the spatio-temporal characteristics of cortical neuronal activity associated with human volitional swallowing in the healthy adult brain. NeuroImage, 2004, 22, 1447-1455.	4.2	97
153	A general linear model for MEG beamformer imaging. Neurolmage, 2004, 23, 936-946.	4.2	48
154	Statistical flattening of MEG beamformer images. Human Brain Mapping, 2003, 18, 1-12.	3.6	163
155	Accuracy and applications of group MEG studies using cortical source locations estimated from participants' scalp surfaces. Human Brain Mapping, 2003, 20, 142-147.	3.6	34
156	Group imaging of task-related changes in cortical synchronisation using nonparametric permutation testing. Neurolmage, 2003, 19, 1589-1601.	4.2	215
157	How many positions can we perceptually encode, one or many?. Vision Research, 2003, 43, 1575-1587.	1.4	13
158	The use of anatomical constraints with MEG beamformers. Neurolmage, 2003, 20, 2302-2313.	4.2	118
159	Task-Related Changes in Cortical Synchronization Are Spatially Coincident with the Hemodynamic Response. Neurolmage, 2002, 16, 103-114.	4.2	267
160	A Quantitative Assessment of the Sensitivity of Whole-Head MEG to Activity in the Adult Human Cortex. Neurolmage, 2002, 16, 638-650.	4.2	414
161	The spatial relationship between event-related changes in cortical synchrony, and the haemodynamic response: an MEG-fMRI study. NeuroImage, 2001, 13, 71.	4.2	3
162	The cortical deficit in humans with strabismic amblyopia. Journal of Physiology, 2001, 533, 281-297.	2.9	219

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163	Topographic mapping of the pattern onset evoked magnetic response to stimulation of different portions of the visual field. International Journal of Psychophysiology, 1994, 16, 175-183.	1.0	15
164	Quantification of the relationship between magnetoencephalographic (MEG) and blood oxygenation dependent (BOLD) images of brain function. , 0, , .		2