Roelof Snieder

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/7872553/publications.pdf

Version: 2024-02-01

155 papers	8,907 citations	41344 49 h-index	43889 91 g-index
158 all docs	158 docs citations	158 times ranked	3138 citing authors

#	Article	IF	Citations
1	Extracting the Greenâ€™s function from the correlation of coda waves: A derivation based on stationary phase. Physical Review E, 2004, 69, 046610.	2.1	931
2	Coda Wave Interferometry for Estimating Nonlinear Behavior in Seismic Velocity. Science, 2002, 295, 2253-2255.	12.6	490
3	Seismic interferometryâ€”turning noise into signal. The Leading Edge, 2006, 25, 1082-1092.	0.7	346
4	Eikonal tomography: surface wave tomography by phase front tracking across a regional broad-band seismic array. Geophysical Journal International, 2009, 177, 1091-1110.	2.4	326
5	Tutorial on seismic interferometry: Part 1 â€” Basic principles and applications. Geophysics, 2010, 75, 75A195-75A209.	2.6	273
6	Marchenko imaging. Geophysics, 2014, 79, WA39-WA57.	2.6	268
7	The Theory of Coda Wave Interferometry. Pure and Applied Geophysics, 2006, 163, 455-473.	1.9	265
8	Spurious multiples in seismic interferometry of primaries. Geophysics, 2006, 71, SI111-SI124.	2.6	225
9	Shear wave imaging from traffic noise using seismic interferometry by cross-coherence. Geophysics, 2011, 76, SA97-SA106.	2.6	218
10	Seismic interferometry by crosscorrelation and by multidimensional deconvolution: a systematic comparison. Geophysical Journal International, 2011, 185, 1335-1364.	2.4	174
11	Time-lapse travel time change of multiply scattered acoustic waves. Journal of the Acoustical Society of America, 2005, 118, 1300-1310.	1.1	165
12	The Fresnel volume and transmitted waves. Geophysics, 2004, 69, 653-663.	2.6	164
13	Interferometry by deconvolution: Part 1 â€” Theory for acoustic waves and numerical examples. Geophysics, 2008, 73, S115-S128.	2.6	164
14	Tutorial on seismic interferometry: Part 2 â€” Underlying theory and new advances. Geophysics, 2010, 75, 75A211-75A227.	2.6	154
15	Retrieving the Greenâ€™s function in an open system by cross correlation: A comparison of approaches (L). Journal of the Acoustical Society of America, 2005, 118, 2783-2786.	1.1	150
16	Three-Dimensional Single-Sided Marchenko Inverse Scattering, Data-Driven Focusing, Greenâ€™s Function Retrieval, and their Mutual Relations. Physical Review Letters, 2013, 110, 084301.	7.8	150
17	Seismic and electromagnetic controlledâ€source interferometry in dissipative media. Geophysical Prospecting, 2008, 56, 419-434.	1.9	142
18	Improving the virtual source method by wavefield separation. Geophysics, 2007, 72, V79-V86.	2.6	136

#	Article	IF	Citations
19	Focusing the wavefield inside an unknown 1D medium: Beyond seismic interferometry. Geophysics, 2012, 77, A25-A28.	2.6	136
20	Extracting the Greenâ€™s function of attenuating heterogeneous acoustic media from uncorrelated waves. Journal of the Acoustical Society of America, 2007, 121, 2637-2643.	1.1	131
21	Time-lapse monitoring of rock properties with coda wave interferometry. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	125
22	Unified Greenâ€™s function retrieval by cross-correlation; connection with energy principles. Physical Review E, 2007, 75, 036103.	2.1	123
23	Connection of scattering principles: a visual and mathematical tour. European Journal of Physics, 2012, 33, 593-613.	0.6	117
24	Interferometry by deconvolution: Part 2 â€” Theory for elastic waves and application to drill-bit seismic imaging. Geophysics, 2008, 73, S129-S141.	2.6	116
25	Equivalence of the virtual-source method and wave-field deconvolution in seismic interferometry. Physical Review E, 2006, 73, 066620.	2.1	110
26	To Bayes or not to Bayes?. Geophysics, 1997, 62, 1045-1046.	2.6	107
27	Unified Greenâ€™s Function Retrieval by Cross Correlation. Physical Review Letters, 2006, 97, 234301.	7.8	104
28	Monitoring rapid temporal change in a volcano with coda wave interferometry. Geophysical Research Letters, 2005, 32, .	4.0	98
29	Cancellation of spurious arrivals in Greenâ€™s function extraction and the generalized optical theorem. Physical Review E, 2008, 78, 036606.	2.1	96
30	A Comparison of Strategies for Seismic Interferometry. Surveys in Geophysics, 2009, 30, 503-523.	4.6	94
31	Application of seismic interferometry to extract P- and S-wave propagation and observation of shear-wave splitting from noise data at Cold Lake, Alberta, Canada. Geophysics, 2008, 73, D35-D40.	2.6	84
32	Marchenko imaging: Imaging with primaries, internal multiples, and free-surface multiples. Geophysics, 2015, 80, S165-S174.	2.6	84
33	Coda wave interferometry and the equilibration of energy in elastic media. Physical Review E, 2002, 66, 046615.	2.1	77
34	Autofocus Imaging: Image reconstruction based on inverse scattering theory. Geophysics, 2014, 79, A19-A26.	2.6	74
35	Thermal structure of continental upper mantle inferred from S-wave velocity and surface heat flow. Earth and Planetary Science Letters, 2000, 181, 395-407.	4.4	73
36	Underestimation of body waves and feasibility of surface-wave reconstruction by seismic interferometry. The Leading Edge, 2010, 29, 790-794.	0.7	69

#	Article	IF	Citations
37	Extracting Earth's Elastic Wave Response from Noise Measurements. Annual Review of Earth and Planetary Sciences, 2013, 41, 183-206.	11.0	69
38	Attenuation, dispersion, and anisotropy by multiple scattering of transmitted waves through distributions of scatterers. Journal of the Acoustical Society of America, 1995, 98, 3482-3492.	1.1	66
39	Obtaining smooth solutions to large, linear, inverse problems. Geophysics, 1994, 59, 818-829.	2.6	65
40	What is noise?. Geophysics, 1998, 63, 1122-1124.	2.6	64
41	Retrieving the Greenâ€™s function of the diffusion equation from the response to a random forcing. Physical Review E, 2006, 74, 046620.	2.1	61
42	Imaging with ambient noise. Physics Today, 2010, 63, 44-49.	0.3	61
43	Finding sets of acceptable solutions with a genetic algorithm with application to surface wave group dispersion in Europe. Geophysical Research Letters, 1994, 21, 2617-2620.	4.0	60
44	Constraining the source separation with coda wave interferometry: Theory and application to earthquake doublets in the Hayward fault, California. Journal of Geophysical Research, 2005, 110, .	3.3	60
45	Imaging internal multiples from subsalt VSP data â€” Examples of target-oriented interferometry. Geophysics, 2008, 73, S157-S168.	2.6	59
46	The Anatomy of Inverse Problems. Geophysics, 2000, 65, 1708-1710.	2.6	58
47	Acquisition geometry requirements for generating virtual-source data. The Leading Edge, 2008, 27, 620-629.	0.7	58
48	Waveform inversions and the significance of surface-wave mode coupling. Geophysical Journal International, 1996, 124, 258-278.	2.4	56
49	The time dependence of rock healing as a universal relaxation process, a tutorial. Geophysical Journal International, 2017, 208, 1-9.	2.4	51
50	Monitoringin situstress changes in a mining environment with coda wave interferometry. Geophysical Journal International, 2006, 167, 504-508.	2.4	50
51	Representation theorems and Greenâ€™s function retrieval for scattering in acoustic media. Physical Review E, 2009, 80, 036605.	2.1	49
52	Required source distribution for interferometry of waves and diffusive fields. Geophysical Journal International, 2009, 179, 1232-1244.	2.4	48
53	The lack of equipartitioning in global body wave coda. Geophysical Research Letters, 2015, 42, 7483-7489.	4.0	48
54	Creating a virtual source inside a medium from reflection data: heuristic derivation and stationary-phase analysis. Geophysical Journal International, 2012, 190, 1020-1024.	2.4	45

#	Article	IF	Citations
55	Accounting for free-surface multiples in Marchenko imaging. Geophysics, 2017, 82, R19-R30.	2.6	44
56	The relative density-to-shear velocity scaling in the uppermost mantle. Physics of the Earth and Planetary Interiors, 2001, 124, 193-212.	1.9	41
57	Advanced Noninvasive Geophysical Monitoring Techniques. Annual Review of Earth and Planetary Sciences, 2007, 35, 653-683.	11.0	39
58	On seismic interferometry, the generalized optical theorem, and the scattering matrix of a point scatterer. Geophysics, 2010, 75, SA27-SA35.	2.6	39
59	Monitoring change in volcanic interiors using coda wave interferometry: Application to Arenal Volcano, Costa Rica. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	37
60	Strengthening the virtual-source method for time-lapse monitoring. Geophysics, 2008, 73, S73-S80.	2.6	36
61	Timeâ€lapse change in anisotropy in Japan's near surface after the 2011 Tohokuâ€Oki earthquake. Geophysical Research Letters, 2012, 39, .	4.0	35
62	Field Fluctuations, Imaging with Backscattered Waves, a Generalized Energy Theorem, and the Optical Theorem. SIAM Journal on Imaging Sciences, 2009, 2, 763-776.	2.2	33
63	Focusing of elastic waves for microseismic imaging. Geophysical Journal International, 2014, 200, 390-401.	2.4	33
64	Multiple scattering in evolving media. Physics Today, 2007, 60, 49-55.	0.3	32
65	A perturbative analysis of non-linear inversion. Geophysical Journal International, 1990, 101, 545-556.	2.4	30
66	Solving large linear inverse problems by projection. Geophysical Journal International, 1990, 103, 565-568.	2.4	29
67	Improving spatio-temporal focusing and source reconstruction through deconvolution. Wave Motion, 2015, 52, 151-159.	2.0	29
68	Time-lapse changes of P- and S-wave velocities and shear wave splitting in the first year after the 2011 Tohoku earthquake, Japan: shallow subsurface. Geophysical Journal International, 2013, 193, 238-251.	2.4	28
69	Imaging and Averaging in Complex Media. , 1999, , 405-454.		28
70	The liquefaction cycle and the role of drainage in liquefaction. Granular Matter, 2004, 6, 1.	2.2	27
71	Cancellation of spurious arrivals in Greenâ€™s function retrieval of multiple scattered waves. Journal of the Acoustical Society of America, 2010, 128, 1598-1605.	1.1	27
72	Review paper: Virtual sources and their responses, Part II: dataâ€driven singleâ€sided focusing. Geophysical Prospecting, 2017, 65, 1430-1451.	1.9	26

#	Article	IF	Citations
73	What is a wave?. Nature, 1999, 401, 739-740.	27.8	24
74	Body-wave interferometry using regional earthquakes with multidimensional deconvolution after wavefield decomposition at free surface. Geophysical Journal International, 2014, 199, 1125-1137.	2.4	24
75	A test of the Great Circle Approximation in the analysis of surface waves. Geophysical Research Letters, 1993, 20, 915-918.	4.0	22
76	Equipartitioning is not sufficient for Greenâ€™s function extraction. Earthquake Science, 2010, 23, 403-415.	0.9	22
77	Spatial and temporal influence of rainfall on crustal pore pressure based on seismic velocity monitoring. Earth, Planets and Space, 2020, 72, .	2.5	22
78	Depth-dependence of seismic velocity change associated with the 2011 Tohoku earthquake, Japan, revealed from repeating earthquake analysis and finite-difference wave propagation simulation. Geophysical Journal International, 2015, 201, 741-763.	2.4	21
79	Analyzing the coda from correlating scattered surface waves. Journal of the Acoustical Society of America, 2012, 131, EL275-EL281.	1.1	20
80	Seismic interferometry and stationary phase at caustics. Journal of Geophysical Research: Solid Earth, 2015, 120, 4333-4343.	3.4	18
81	Optimal source imaging in elastic media. Geophysical Journal International, 2016, 204, 1134-1147.	2.4	18
82	Detection of lateral velocity contrasts by crosswell traveltime tomography. Geophysics, 1998, 63, 523-533.	2.6	18
83	Timeâ€lapse imaging of a localized weak change with multiply scattered waves using numericalâ€based sensitivity kernel. Journal of Geophysical Research: Solid Earth, 2015, 120, 5595-5605.	3.4	17
84	Fast, efficient calculation of rays and travel times with ray perturbation theory. Journal of the Acoustical Society of America, 1996, 99, 383-391.	1.1	16
85	Greenâ€™s function representations for Marchenko imaging without up/down decomposition. Geophysical Journal International, 2021, 227, 184-203.	2.4	16
86	The reflection and transmission of planeP- andS-waves by a continuously stratified band: a new approach using invariant imbedding. Geophysical Journal International, 1989, 96, 447-456.	2.4	15
87	Retrieving electric resistivity data from selfâ€potential measurements by crossâ€correlation. Geophysical Research Letters, 2010, 37, .	4.0	15
88	Source-receiver Marchenko redatuming: Obtaining virtual receivers and virtual sources in the subsurface. Geophysics, 2017, 82, Q13-Q21.	2.6	15
89	Strategies for imaging with Marchenko-retrieved Greenâ€™s functions. Geophysics, 2017, 82, Q23-Q37.	2.6	15
90	Correcting for bias due to noise in coda wave interferometry. Geophysical Journal International, 2006, 164, 99-108.	2.4	14

#	Article	IF	Citations
91	Seismic shear waves as Foucault pendulum. Geophysical Research Letters, 2016, 43, 2576-2581.	4.0	14
92	General representation theorem for perturbed media and application to Green's function retrieval for scattering problems. Geophysical Journal International, 2010, 183, 1648-1662.	2.4	13
93	The reciprocity theorem for the scattered field is the progenitor of the generalized optical theorem. Journal of the Acoustical Society of America, 2011, 129, 2765-2771.	1.1	13
94	Lagrangian Green's function extraction, with applications to potential fields, diffusion and acoustic waves. New Journal of Physics, 2010, 12, 063013.	2.9	12
95	Twoâ€dimensional controlledâ€source electromagnetic interferometry by multidimensional deconvolution: spatial sampling aspects. Geophysical Prospecting, 2012, 60, 974-994.	1.9	12
96	Estimate of shear wave velocity, and its time-lapse change, from seismic data recorded at the SMNH01 station of KiK-net using seismic interferometry. Soil Dynamics and Earthquake Engineering, 2012, 39, 128-137.	3.8	12
97	On the estimation of attenuation from the ambient seismic field: inferences from distributions of isotropic point scatterers. Geophysical Journal International, 2015, 203, 1054-1071.	2.4	12
98	Virtual Real Source: Source signature estimation using seismic interferometry. Geophysics, 2013, 78, Q57-Q68.	2.6	11
99	Locating Events Using Time Reversal and Deconvolution: Experimental Application and Analysis. Journal of Nondestructive Evaluation, 2015, 34, 1.	2.4	11
100	Connecting to the Heart: Teaching Value-Based Professional Ethics. Science and Engineering Ethics, 2020, 26, 2235-2254.	2.9	11
101	Humility and nonlinearity. Geophysics, 1997, 62, 1355-1358.	2.6	10
102	Seismic anisotropy of a building. The Leading Edge, 2006, 25, 1093-1093.	0.7	10
103	Virtual source gathers and attenuation of freeâ€surface multiples using OBC data:implementation issues and a case study. , 2006, , .		10
104	Marketing Earth science education. Eos, 2002, 83, 131.	0.1	9
105	Interferometry in dissipative media: Addressing the shallowâ€sea problem for seabed logging applications. , 2007, , .		9
106	Green's function representation for seismic interferometry by deconvolution. , 2010, , .		9
107	Uncertainty analysis for the integration of seismic and controlled source electroâ€magnetic data. Geophysical Prospecting, 2011, 59, 609-626.	1.9	9
108	Focusing waves in an unknown medium without wavefield decomposition. JASA Express Letters, 2021, 1, .	1.1	9

#	Article	IF	Citations
109	Constraints on coda wave interferometry estimates of source separation: the acoustic case. Exploration Geophysics, 2007, 38, 189-199.	1.1	8
110	Drill Bit Noise Illuminates the San Andreas Fault. Eos, 2008, 89, 349-349.	0.1	8
111	The applicability of ray perturbation theory to mantle tomography. Geophysical Research Letters, 1993, 20, 73-76.	4.0	7
112	Locating a microseismic event using deconvolution. , 2013, , .		7
113	Effect of sharp lateral heterogeneity on the Earth's normal modes. Geophysical Research Letters, 1989, 16, 397-400.	4.0	6
114	Time reversed imaging for perturbed media. American Journal of Physics, 2006, 74, 224-231.	0.7	6
115	Nonlinear elasticity in resonance experiments. Physical Review B, 2018, 97, .	3.2	6
116	3â€D Controlled Source Electromagnetic (CSEM) interferometry by multiâ€dimensional deconvolution. , 2009, , .		6
117	Seismic interferometry by crossâ€correlation or deconvolution?. , 2008, , .		5
118	Estimation of velocity change using repeating earthquakes with different locations and focal mechanisms. Journal of Geophysical Research: Solid Earth, 2013, 118, 2905-2914.	3.4	5
119	The virtualâ€source method applied to Mars field OBC data for timeâ€lapse monitoring. , 2007, , .		5
120	Error in shear-wave polarization and time splitting. Geophysical Prospecting, 2004, 52, 123-132.	1.9	4
121	Beyond Marchenko: Obtaining virtual receivers and virtual sources in the subsurface. , 2016, , .		4
122	Theory of the linear sampling method for time-dependent fields. Inverse Problems, 2019, 35, 055003.	2.0	4
123	An acoustic Lippmann-Schwinger inversion method: applications and comparison with the linear sampling method. Journal of Physics Communications, 2020, 4, 015007.	1.2	4
124	Local coupling and conversion of surface waves due to Earthâ€™s rotation. Part 1: theory. Geophysical Journal International, 2021, 225, 158-175.	2.4	4
125	Seismic modeling and analysis of a prototype heated nuclear waste storage tunnel, Yucca Mountain, Nevada. Geophysics, 2010, 75, T1-T8.	2.6	3
126	Timeâ€lapse monitoring of velocity changes in Utah. Journal of Geophysical Research: Solid Earth, 2014, 119, 7209-7225.	3.4	3

#	Article	IF	Citations
127	Demystifying the memory effect: A geometrical approach to understanding speckle correlations. European Physical Journal: Special Topics, 2017, 226, 1445-1455.	2.6	3
128	Inter-Source Interferometry of Seismic Body Waves: Required Conditions and Examples. Pure and Applied Geophysics, 2021, 178, 3441-3460.	1.9	3
129	Computers and creativity. Geophysics, 1999, 64, 1347-1348.	2.6	2
130	The tube worm turns. Nature, 2000, 406, 939-939.	27.8	2
131	From order to disorder to order: A philosophical view on seismic interferometry. , 2007, , .		2
132	Extracting the Greenâ€™s function from measurements of the energy flux. Journal of the Acoustical Society of America, 2012, 131, EL309-EL315.	1.1	2
133	Elastic-wave propagation and the Coriolis force. Physics Today, 2016, 69, 90-91.	0.3	2
134	Estimating the Green's function using a single channel dual-beam interferometer. Journal of the Acoustical Society of America, 2018, 144, 124-130.	1.1	2
135	The critical angle in seismic interferometry. , 2008, , .		1
136	Source distribution in interferometry for wave and diffusion. , 2008, , .		1
137	Body-wave interferometry using local earthquakes with multi-dimensional deconvolution and wavefield decomposition at free surface. , 2013, , .		1
138	Spatio-temporal resolution improvement via weighted time-reversal. Wave Motion, 2021, 106, 102803.	2.0	1
139	Acoustic imaging using unknown random sources. Journal of the Acoustical Society of America, 2021, 149, 499-507.	1.1	1
140	Extracting the Time-Domain Building Response From Random Vibrations. NATO Science for Peace and Security Series C: Environmental Security, 2009, , 283-292.	0.2	1
141	Controlled source electromagnetic interferometry: the illumination function. , 2010, , .		1
142	Improving the virtualâ€source method by wavefield separation. , 2007, , .		1
143	4. Green's Function Reconstruction. , 2008, , 99-329.		0
144	Seismic modeling and analysis of the prototype heated nuclear waste storage tunnel, Yucca Mountain, Nevada. , 2008, , .		0

#	Article	IF	Citations
145	Wellâ€log analysis of pore pressure mechanisms near a minibasinâ€bounding growth fault at South Eugene Island field, offshore Louisiana. , 2005, , .		0
146	Exploiting the Complexity of Elastic Waves in the Earth. , 2005, , .		0
147	Changing the boundary conditions in seismic interferometry, and the suppression of surface-related multiples.. , 2006, , .		0
148	The potential of potential field interferometry. , 2009, , .		0
149	Green's second theorem and the extraction of Green's functions. , 2009, , .		0
150	A Comparison of Strategies for Seismic Interferometry. , 2009, , 235-255.		0
151	Underestimation of bodyâ€waves in Green's function retrieval and its implications. , 2010, , .		0
152	Time-lapse change in near-surface shear-wave velocities caused by rainfall and large earthquakes detected by applying seismic interferometry to earthquake data. , 2012, , .		0
153	Modes of survival. Geophysics, 1998, 63, 1845-1846.	2.6	0
154	Imaging, focusing, and inversion with the linear sampling method. , 2019, , .		0
155	Spatial and temporal influence of sea level on inland stress based on seismic velocity monitoring. Earth, Planets and Space, 2022, 74, .	2.5	0