

David E Lumley

List of Publications by Year in descending order

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88
papers

1,488
citations

567281

15
h-index

377865

34
g-index

94
all docs

94
docs citations

94
times ranked

973
citing authors

#	ARTICLE	IF	CITATIONS
1	Time-lapse seismic reservoir monitoring. <i>Geophysics</i> , 2001, 66, 50-53.	2.6	338
2	4D seismic monitoring of CO2 sequestration. <i>The Leading Edge</i> , 2010, 29, 150-155.	0.7	156
3	Assessing the technical risk of a 4-D seismic project. <i>The Leading Edge</i> , 1997, 16, 1287-1292.	0.7	88
4	Retrieval of the <i>P</i> -wave reflectivity response from autocorrelation of seismic noise: Jakarta Basin, Indonesia. <i>Geophysical Research Letters</i> , 2017, 44, 792-799.	4.0	72
5	Imaging complex geologic structure with single-arrival Kirchhoff prestack depth migration. <i>Geophysics</i> , 1997, 62, 1533-1543.	2.6	58
6	4D seismic data processing issues and examples. , 2003, , .		42
7	Business and technology challenges for 4D seismic reservoir monitoring. <i>The Leading Edge</i> , 2004, 23, 1166-1168.	0.7	32
8	The next wave in reservoir monitoring: The instrumented oil field. <i>The Leading Edge</i> , 2001, 20, 640-648.	0.7	31
9	Introduction to microseismic source mechanisms. <i>The Leading Edge</i> , 2015, 34, 876-880.	0.7	30
10	Estimation of reservoir pressure and saturations by crossplot inversion of 4D seismic attributes. , 2003, , .		29
11	4D seismic pressure-saturation inversion at Gullfaks field, Norway. <i>First Break</i> , 2003, 21, .	0.4	29
12	Burying receivers for improved time-lapse seismic repeatability: CO2CRC Otway field experiment. <i>Geophysical Prospecting</i> , 2015, 63, 55-69.	1.9	24
13	Big Data Seismology. <i>Reviews of Geophysics</i> , 2022, 60, .	23.0	24
14	<title>Subsurface fluid flow properties from time-lapse elastic wave reflection data</title>. , 1998, 3453, 125.		23
15	A cross-equalization processing flow for offshore shelf 4D seismic data. , 1998, , .		23
16	Pressure and saturation inversion of 4D seismic data by rock physics forward modeling. , 2002, , .		22
17	Rock physics analysis for time-lapse seismic at Schiehallion Field, North Sea. <i>Geophysical Prospecting</i> , 2005, 53, 205-213.	1.9	22
18	4D seismic monitoring of an active steamflood. , 1995, , .		20

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19	Reservoir monitoring: A multidisciplinary feasibility study. <i>The Leading Edge</i> , 1998, 17, 1404-1414.	0.7	20
20	Full waveform inversion of repeating seismic events to estimate time-lapse velocity changes. <i>Geophysical Journal International</i> , 0, , .	2.4	17
21	Simultaneous optimization of multiple objective functions for reservoir modeling. <i>Geophysics</i> , 2015, 80, M53-M67.	2.6	16
22	Estimation of reservoir fluid saturation from 4D seismic data: effects of noise on seismic amplitude and impedance attributes. <i>Journal of Geophysics and Engineering</i> , 2017, 14, 51-68.	1.4	16
23	Seismic monitoring of CO ₂ geo-sequestration: realistic capabilities and limitations. , 2008, , .		15
24	Analysis of time-lapse seismic and production data for reservoir model classification and assessment. <i>Journal of Geophysics and Engineering</i> , 2018, 15, 1561-1587.	1.4	15
25	Time-lapse Imaging of Coseismic Ruptures for the 2019 Ridgecrest Earthquakes Using Multiazimuth Backprojection With Regional Seismic Data and a 3D Crustal Velocity Model. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL087181.	4.0	15
26	Passive seismic imaging and velocity inversion using full wavefield methods. , 2014, , .		14
27	Modeling the pressure sensitivity of uncemented sediments using a modified grain contact theory: Incorporating grain relaxation and porosity effects. <i>Geophysics</i> , 2013, 78, D327-D338.	2.6	13
28	The combined effects of pressure and cementation on 4D seismic data. <i>Geophysics</i> , 2015, 80, WA135-WA148.	2.6	13
29	Passive seismic imaging at reservoir depths using ambient seismic noise recorded at the Otway CO ₂ geological storage research facility. <i>Geophysical Journal International</i> , 2017, 209, 1622-1628.	2.4	13
30	Central-difference time-lapse 4D seismic full-waveform inversion. <i>Geophysics</i> , 2021, 86, R161-R172.	2.6	13
31	Time-lapse wave-equation migration velocity analysis. <i>Geophysics</i> , 2013, 78, S69-S79.	2.6	12
32	Portfolio Analysis of Carbon Sequestration Technologies and Barriers to Adoption: General Methodology and Application to Geological Storage. <i>Energy Procedia</i> , 2013, 37, 5063-5079.	1.8	10
33	Advances in time-lapse geophysics – Introduction. <i>Geophysics</i> , 2015, 80, WAi-WAii.	2.6	10
34	Prism waves in seafloor canyons and their effects on seismic imaging. <i>Geophysics</i> , 2015, 80, S213-S222.	2.6	10
35	Stress-induced seismic azimuthal anisotropy in the upper crust across the North West Shelf, Australia. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 1023-1039.	3.4	10
36	Seismic monitoring of oil production: A feasibility study. , 1994, , .		10

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37	Seismic monitoring of hydrocarbon fluid flow. Journal of Mathematical Imaging and Vision, 1995, 5, 287-296.	1.3	9
38	Practical Engineering Issues of 4D Seismic Reservoir Monitoring. , 1997, , .		9
39	Meren Field, Nigeria: A 4D seismic case study. , 1999, , .		8
40	Highlights of the 2009 SEG Summer Research Workshop on CO ₂ Sequestration. The Leading Edge, 2010, 29, 138-145.	0.7	8
41	Elliptical dip moveout for 3D seismic imaging in the presence of azimuthal anisotropy. Geophysics, 2012, 77, C1-C12.	2.6	8
42	Successful Application Of 4D Seismic In The Stybarrow Field, Western Australia. , 2012, , .		8
43	Poloidal and Toroidal Mode Mantle Flows Underneath the Cascadia Subduction Zone. Geophysical Research Letters, 2020, 47, e2020GL087530.	4.0	8
44	Surveying Batavia's Graveyard: Geophysical controlled experiments and subsurface imaging of archaeological sites on an Indian Ocean coral island. Geophysics, 2017, 82, B147-B163.	2.6	7
45	Time-lapse full-waveform inversion for cross-well monitoring of microbubble injection. , 2017, , .		7
46	Nonrepeatability effects on time-lapse 4D seismic full-waveform inversion for ocean-bottom node data. Geophysics, 2021, 86, R547-R561.	2.6	7
47	A Small CO ₂ Leakage May Induce Seismicity on a Subseismic Fault in a Good Porosity Clastic Saline Aquifer. Geophysical Research Letters, 2022, 49, .	4.0	7
48	Advanced concepts in active and passive seismic monitoring using full wavefield techniques. ASEG Extended Abstracts, 2013, 2013, 1-4.	0.1	6
49	Feasibility analysis for time-lapse seafloor gravity monitoring of producing gas fields in the Northern Carnarvon Basin, offshore Australia. Geophysics, 2015, 80, WA149-WA160.	2.6	6
50	Estimation of subsurface geomodels by multi-objective stochastic optimization. Journal of Applied Geophysics, 2016, 129, 187-199.	2.1	6
51	Reconstruction of 3D seismic data from sparse random OBN acquisition by compressive sensing. , 2019, , .		6
52	The Western Australia Modeling project " Part 2: Seismic validation. Interpretation, 2019, 7, T793-T807.	1.1	6
53	The Western Australia Modeling project " Part 1: Geomodel building. Interpretation, 2019, 7, T773-T791.	1.1	6
54	The Role of Geophysics in Carbon Capture and Storage. , 2019, , 11-53.		4

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55	Performance and stability of the double absorbing boundary method for acoustic-wave propagation. Geophysics, 2019, 84, T59-T72.	2.6	4
56	Waveform-based estimation of Q and scattering properties for zero-offset vertical seismic profile data. Geophysics, 2020, 85, R365-R379.	2.6	4
57	Estimating separate steam thickness and temperature maps from 4D seismic data: An example from San Joaquin Valley, California. , 1999, , .		4
58	Angle-dependent reflectivity estimation. , 1993, , .		3
59	Modelling 3D seismic wavefields through complex seabottom topography offshore NW Australia. ASEG Extended Abstracts, 2013, 2013, 1-4.	0.1	3
60	The Stybarrow Field - a 4D Case Study. ASEG Extended Abstracts, 2013, 2013, 1-5.	0.1	3
61	Full waveform inversion comparison of conventional and broadband marine seismic streamer data, NW Shelf Australia. ASEG Extended Abstracts, 2015, 2015, 1-4.	0.1	3
62	Stress-induced seismic azimuthal anisotropy, sand-shale content, and depth trends offshore North West Australia. Geophysics, 2017, 82, C77-C90.	2.6	3
63	Initialising reservoir models for history matching using pre-production 3D seismic data: constraining methods and uncertainties. Exploration Geophysics, 2017, 48, 37-48.	1.1	3
64	Sensitivity analysis of rock physics and seismic properties for Wolfcamp Shale. , 2019, , .		3
65	Estimation of micro-earthquake source locations based on full adjoint P and S wavefield imaging. Geophysical Journal International, 2021, 226, 2116-2144.	2.4	3
66	Microearthquake location and uncertainty analysis using a Kirchhoff wavefront imaging method: A comparison with travelt ime inversion and full wavefield imaging methods. Geophysics, 2022, 87, KS147-KS167.	2.6	3
67	Monitoring CO ₂ injection into a saline aquifer: Otway Project feasibility study. , 2012, , .		2
68	4D Seismic Bandwidth and Resolution Analysis for Reservoir Fluidflow Model Applications. ASEG Extended Abstracts, 2019, 2019, 1-5.	0.1	2
69	A risk analysis spreadsheet for both time-lapse VSP and 4D seismic reservoir monitoring. , 2000, , .		2
70	Practical geophysical issues of 4D seismic reservoir monitoring. , 1997, , .		2
71	Central-difference time-lapse 4D seismic full waveform inversion. , 2019, , .		2
72	Non-repeatability effects on time-lapse 4D seismic full-waveform inversion. , 2020, , .		2

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73	Rock physics analysis for time-lapse seismic at Schiehallion Field, North Sea. , 2002, , .		1
74	Seismic azimuthal AVO analysis at Stybarrow Field, NW Shelf, Australia. , 2012, , .		1
75	A multi-objective optimization method for creating reservoir models that simultaneously match seismic and geologic data. , 2014, , .		1
76	Relationship between shear wave azimuthal anisotropy, sand-shale content and depth in the Exmouth Sub-Basin, Western Australia. ASEG Extended Abstracts, 2015, 2015, 1-4.	0.1	1
77	Improving TOC estimation for Wolfcamp shales using statistical shale rock physics modeling. , 2020, , .		1
78	Feasibility of time-lapse gravity monitoring of producing gas fields in the Northern Carnarvon Basin, Australia. ASEG Extended Abstracts, 2012, 2012, 1-5.	0.1	1
79	<title>Four-dimensional seismic monitoring of reservoir fluid-flow processes</title>. , 1994, , .		0
80	A new velocity-pressure-compaction , model for uncemented sediments. , 2012, , .		0
81	Performance of the Double Absorbing Boundary Method when Applied to the 3D Acoustic Wave Equation. ASEG Extended Abstracts, 2015, 2015, 1-4.	0.1	0
82	The effects of azimuthal anisotropy on 3D and 4D seismic amplitude variation with offset responses. Geophysics, 2019, 84, C251-C267.	2.6	0
83	A comparison of rock physics models for stress-related seismic azimuthal anisotropy. Exploration Geophysics, 2019, 50, 490-501.	1.1	0
84	Time-lapse joint full-waveform inversion of diving and reflected waves. , 2021, , .		0
85	Elliptical dip moveout (EMO) for 3D seismic imaging in the presence of azimuthal anisotropy. , 2011, , .		0
86	Time-lapse wave-equation migration velocity analysis. , 2012, , .		0
87	Computational rock physics: wave propagation velocities in partially saturated rocks. , 2012, , .		0
88	Long-term time-lapse seismic monitoring of CO2 injection and storage projects for 50-100 years of regulatory compliance. , 2021, , .		0