

# James R Rice

## List of Publications by Citations

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138  
papers

25,280  
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68  
h-index

141  
g-index

141  
ext. papers

27,114  
ext. citations

4.3  
avg, IF

7.2  
L-index

#	Paper	IF	Citations
138	Conditions for the localization of deformation in pressure-sensitive dilatant materials. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1975</b> , 23, 371-394	5	2014
137	Some basic stress diffusion solutions for fluid-saturated elastic porous media with compressible constituents. <i>Reviews of Geophysics</i> , <b>1976</b> , 14, 227	23.1	1449
136	Ductile versus brittle behaviour of crystals. <i>Philosophical Magazine and Journal</i> , <b>1974</b> , 29, 73-97		1330
135	Inelastic constitutive relations for solids: An internal-variable theory and its application to metal plasticity. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1971</b> , 19, 433-455	5	1311
134	Dislocation nucleation from a crack tip: An analysis based on the Peierls concept. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1992</b> , 40, 239-271	5	1203
133	Heating and weakening of faults during earthquake slip. <i>Journal of Geophysical Research</i> , <b>2006</b> , 111, n/a-n/a		782
132	Some remarks on elastic crack-tip stress fields. <i>International Journal of Solids and Structures</i> , <b>1972</b> , 8, 751-758	3.1	781
131	On numerically accurate finite element solutions in the fully plastic range. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>1974</b> , 4, 153-177	5.7	772
130	Localized necking in thin sheets. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1975</b> , 23, 421-441	5	752
129	Crustal earthquake instability in relation to the depth variation of frictional slip properties. <i>Journal of Geophysical Research</i> , <b>1986</b> , 91, 9452		687
128	Spatio-temporal complexity of slip on a fault. <i>Journal of Geophysical Research</i> , <b>1993</b> , 98, 9885		682
127	Finite-element formulations for problems of large elastic-plastic deformation. <i>International Journal of Solids and Structures</i> , <b>1975</b> , 11, 601-616	3.1	609
126	Embrittlement of interfaces by solute segregation. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>1989</b> , 107, 23-40	5.3	597
125	Limitations to the small scale yielding approximation for crack tip plasticity. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1974</b> , 22, 17-26	5	505
124	Rate and state dependent friction and the stability of sliding between elastically deformable solids. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2001</b> , 49, 1865-1898	5	434
123	Chapter 20 Fault Stress States, Pore Pressure Distributions, and the Weakness of the San Andreas Fault. <i>International Geophysics</i> , <b>1992</b> , 475-503		433
122	Slip motion and stability of a single degree of freedom elastic system with rate and state dependent friction. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1984</b> , 32, 167-196	5	398

121	Elastodynamic analysis for slow tectonic loading with spontaneous rupture episodes on faults with rate- and state-dependent friction. <i>Journal of Geophysical Research</i> , <b>2000</b> , 105, 23765-23789		358
120	Dilatancy, compaction, and slip instability of a fluid-infiltrated fault. <i>Journal of Geophysical Research</i> , <b>1995</b> , 100, 22155-22171		357
119	Overview no. 2. <i>Acta Metallurgica</i> , <b>1979</b> , 27, 265-284		351
118	Spontaneous and triggered aseismic deformation transients in a subduction fault model. <i>Journal of Geophysical Research</i> , <b>2007</b> , 112,		293
117	Can observations of earthquake scaling constrain slip weakening?. <i>Geophysical Journal International</i> , <b>2005</b> , 162, 406-424	2.6	281
116	Tensile crack tip fields in elastic-ideally plastic crystals. <i>Mechanics of Materials</i> , <b>1987</b> , 6, 317-335	3.3	272
115	A finite element formulation for problems of large strain and large displacement. <i>International Journal of Solids and Structures</i> , <b>1970</b> , 6, 1069-1086	3.1	250
114	Rate sensitivity of plastic flow and implications for yield-surface vertices. <i>International Journal of Solids and Structures</i> , <b>1983</b> , 19, 973-987	3.1	244
113	Nucleation and early seismic propagation of small and large events in a crustal earthquake model. <i>Journal of Geophysical Research</i> , <b>2003</b> , 108,		242
112	Constitutive relations for fault slip and earthquake instabilities. <i>Pure and Applied Geophysics</i> , <b>1983</b> , 121, 443-475	2.2	234
111	Dilatant strengthening as a mechanism for slow slip events. <i>Journal of Geophysical Research</i> , <b>2010</b> , 115,		232
110	A First-Order Perturbation Analysis of Crack Trapping by Arrays of Obstacles. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>1989</b> , 56, 828-836	2.7	231
109	Aseismic slip transients emerge spontaneously in three-dimensional rate and state modeling of subduction earthquake sequences. <i>Journal of Geophysical Research</i> , <b>2005</b> , 110,		228
108	The activation energy for dislocation nucleation at a crack. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1994</b> , 42, 333-360	5	227
107	A note on some features of the theory of localization of deformation. <i>International Journal of Solids and Structures</i> , <b>1980</b> , 16, 597-605	3.1	216
106	The shape of intergranular creep cracks growing by surface diffusion. <i>Acta Metallurgica</i> , <b>1973</b> , 21, 1625-1628		209
105	On the stability of dilatant hardening for saturated rock masses. <i>Journal of Geophysical Research</i> , <b>1975</b> , 80, 1531-1536		208
104	Self-healing slip pulse on a frictional surface. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1995</b> , 43, 1461-1495	5	206

103	Dynamic motion of a single degree of freedom system following a rate and state dependent friction law. <i>Journal of Geophysical Research</i> , <b>1986</b> , 91, 521		197
102	Pore pressure and poroelasticity effects in Coulomb stress analysis of earthquake interactions. <i>Journal of Geophysical Research</i> , <b>2002</b> , 107, ESE 2-1		195
101	Dynamic shear rupture interactions with fault bends and off-axis secondary faulting. <i>Journal of Geophysical Research</i> , <b>2002</b> , 107, ESE 6-1-ESE 6-18		192
100	Off-Fault Secondary Failure Induced by a Dynamic Slip Pulse. <i>Bulletin of the Seismological Society of America</i> , <b>2005</b> , 95, 109-134	2.3	190
99	Earthquake failure sequences along a cellular fault zone in a three-dimensional elastic solid containing asperity and nonasperity regions. <i>Journal of Geophysical Research</i> , <b>1993</b> , 98, 14109-14131		187
98	Slip complexity in earthquake fault models. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>1996</b> , 93, 3811-8	11.5	171
97	Earthquake ruptures with thermal weakening and the operation of major faults at low overall stress levels. <i>Journal of Geophysical Research</i> , <b>2009</b> , 114,		168
96	Dynamic simulations of slip on a smooth fault in an elastic solid. <i>Journal of Geophysical Research</i> , <b>1997</b> , 102, 17771-17784		164
95	Slip patterns and earthquake populations along different classes of faults in elastic solids. <i>Journal of Geophysical Research</i> , <b>1995</b> , 100, 12959-12983		157
94	A spectral method for three-dimensional elastodynamic fracture problems. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1995</b> , 43, 1791-1824	5	149
93	Effects of prestress state and rupture velocity on dynamic fault branching. <i>Journal of Geophysical Research</i> , <b>2003</b> , 108,		146
92	Universal nucleation length for slip-weakening rupture instability under nonuniform fault loading. <i>Journal of Geophysical Research</i> , <b>2003</b> , 108,		141
91	Triggering of the 1999 MW 7.1 Hector Mine earthquake by aftershocks of the 1992 MW 7.3 Landers earthquake. <i>Journal of Geophysical Research</i> , <b>2002</b> , 107, ESE 6-1-ESE 6-13		133
90	Earthquake aftereffects and triggered seismic phenomena. <i>Pure and Applied Geophysics</i> , <b>1983</b> , 121, 187-219		132
89	Estimates from atomic models of tension-shear coupling in dislocation nucleation from a crack tip. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>1993</b> , 170, 67-85	5.3	127
88	Crustal deformation in Great California earthquake cycles. <i>Journal of Geophysical Research</i> , <b>1987</b> , 92, 11533-11551		120
87	Stress transfer and seismic phenomena in coupled subduction zones during the earthquake cycle. <i>Journal of Geophysical Research</i> , <b>1988</b> , 93, 7869		119
86	Laboratory earthquakes along inhomogeneous faults: directionality and supershear. <i>Science</i> , <b>2005</b> , 308, 681-4	33.3	116

85	Energy Variations in Diffusive Cavity Growth. <i>Journal of the American Ceramic Society</i> , <b>1981</b> , 64, 46-53	3.8	112
84	Somewhat circular tensile cracks. <i>International Journal of Fracture</i> , <b>1987</b> , 33, 155-174	2.3	108
83	The stabilization of spreading shear faults by coupled deformation-diffusion effects in fluid-infiltrated porous materials. <i>Journal of Geophysical Research</i> , <b>1976</b> , 81, 5322-5334		107
82	Thermal pressurization and onset of melting in fault zones. <i>Journal of Geophysical Research</i> , <b>2006</b> , 111,		106
81	A model for turbulent hydraulic fracture and application to crack propagation at glacier beds. <i>Journal of Geophysical Research</i> , <b>2010</b> , 115,		99
80	Off-fault plasticity and earthquake rupture dynamics: 1. Dry materials or neglect of fluid pressure changes. <i>Journal of Geophysical Research</i> , <b>2008</b> , 113,		99
79	Crack front waves. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1998</b> , 46, 467-487	5	95
78	Three-dimensional perturbation solution for a dynamic planar crack moving unsteadily in a model elastic solid. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1994</b> , 42, 813-843	5	92
77	Shear Stress Intensity Factors for a Planar Crack With Slightly Curved Front. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>1986</b> , 53, 774-778	2.7	91
76	Earthquake precursory effects due to pore fluid stabilization of a weakening fault zone. <i>Journal of Geophysical Research</i> , <b>1979</b> , 84, 2177		83
75	Does shear heating of pore fluid contribute to earthquake nucleation?. <i>Journal of Geophysical Research</i> , <b>2006</b> , 111,		76
74	Interaction of the San Andreas Fault Creeping Segment with Adjacent great rupture zones and earthquake recurrence at Parkfield. <i>Journal of Geophysical Research</i> , <b>1993</b> , 98, 2135		74
73	Repeating Earthquakes as Low-Stress-Drop Events at a Border between Locked and Creeping Fault Patches. <i>Bulletin of the Seismological Society of America</i> , <b>2001</b> , 91, 532-537	2.3	73
72	Three-dimensional elastic crack tip interactions with transformation strains and dislocations. <i>International Journal of Solids and Structures</i> , <b>1985</b> , 21, 781-791	3.1	72
71	Contained plastic deformation near cracks and notches under longitudinal shear. <i>International Journal of Fracture Mechanics</i> , <b>1966</b> , 2, 426		69
70	Stability and localization of rapid shear in fluid-saturated fault gouge: 2. Localized zone width and strength evolution. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2014</b> , 119, 4334-4359	3.6	65
69	Frictional response induced by time-dependent fluctuations of the normal loading. <i>Journal of Geophysical Research</i> , <b>2001</b> , 106, 13455-13472		65
68	Off-fault damage patterns due to supershear ruptures with application to the 2001 Mw 8.1 Kokoxili (Kunlun) Tibet earthquake. <i>Journal of Geophysical Research</i> , <b>2007</b> , 112,		64

67	Preseismic rupture progression and great earthquake instabilities at plate boundaries. <i>Journal of Geophysical Research</i> , <b>1983</b> , 88, 4231-4246		63
66	Nucleation of slip-weakening rupture instability in landslides by localized increase of pore pressure. <i>Journal of Geophysical Research</i> , <b>2012</b> , 117,		62
65	Disordering of a dynamic planar crack front in a model elastic medium of randomly variable toughness. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1994</b> , 42, 1047-1064	5	60
64	Slow slip predictions based on granite and gabbro friction data compared to GPS measurements in northern Cascadia. <i>Journal of Geophysical Research</i> , <b>2009</b> , 114,		58
63	Deformation-induced melting in the margins of the West Antarctic ice streams. <i>Journal of Geophysical Research F: Earth Surface</i> , <b>2014</b> , 119, 1004-1025	3.8	56
62	Stability and localization of rapid shear in fluid-saturated fault gouge: 1. Linearized stability analysis. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2014</b> , 119, 4311-4333	3.6	55
61	Existence of continuum complexity in the elastodynamics of repeated fault ruptures. <i>Journal of Geophysical Research</i> , <b>2000</b> , 105, 23791-23810		54
60	MECHANICS AND THERMODYNAMICS OF BRITTLE INTERFACIAL FAILURE IN BIMATERIAL SYSTEMS <b>1990</b> , 269-294		53
59	Anti-plane shear cracks in ideally plastic crystals. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1985</b> , 33, 595-622	5	53
58	Off-fault plasticity and earthquake rupture dynamics: 2. Effects of fluid saturation. <i>Journal of Geophysical Research</i> , <b>2008</b> , 113,		51
57	Crack tip singular fields in ductile crystals with taylor power-law hardening. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1989</b> , 37, 673-691	5	50
56	Role of fault branches in earthquake rupture dynamics. <i>Journal of Geophysical Research</i> , <b>2007</b> , 112,		49
55	Fault branching and rupture directivity. <i>Journal of Geophysical Research</i> , <b>2005</b> , 110,		49
54	Recent finite element studies in plasticity and fracture mechanics. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>1979</b> , 17-18, 411-442	5.7	49
53	Effective normal stress alteration due to pore pressure changes induced by dynamic slip propagation on a plane between dissimilar materials. <i>Journal of Geophysical Research</i> , <b>2006</b> , 111,		45
52	Perturbative simulations of crack front waves. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2000</b> , 48, 1229-1251	5	45
51	Possible mechanisms for glacial earthquakes. <i>Journal of Geophysical Research</i> , <b>2008</b> , 113,		43
50	Subglacial hydrology and ice stream margin locations. <i>Journal of Geophysical Research F: Earth Surface</i> , <b>2015</b> , 120, 1352-1368	3.8	41

49	A spectral method for numerical elastodynamic fracture analysis without spatial replication of the rupture event. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1997</b> , 45, 1393-1418	5	39
48	Nearly Circular Connections of Elastic Half Spaces. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>1987</b> , 54, 627-634	2.7	39
47	Earthquake slip between dissimilar poroelastic materials. <i>Journal of Geophysical Research</i> , <b>2008</b> , 113,		35
46	Effects of ice deformation on Röhlsberger channels and implications for transitions in subglacial hydrology. <i>Journal of Glaciology</i> , <b>2016</b> , 62, 750-762	3.4	31
45	First-Occurrence Time of High-Level Crossings in a Continuous Random Process. <i>Journal of the Acoustical Society of America</i> , <b>1966</b> , 39, 323-335	2.2	31
44	Shear heating and weakening of the margins of West Antarctic ice streams. <i>Geophysical Research Letters</i> , <b>2015</b> , 42, 3406-3413	4.9	26
43	The stress field and energy of a three-dimensional dislocation loop at a crack tip. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1987</b> , 35, 743-769	5	24
42	Effect of Fault Architecture and Permeability Evolution on Response to Fluid Injection. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2018</b> , 123, 9982-9997	3.6	24
41	Strain localization driven by thermal decomposition during seismic shear. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2015</b> , 120, 4405-4433	3.6	23
40	Modeling Turbulent Hydraulic Fracture Near a Free Surface. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>2012</b> , 79,	2.7	22
39	Seismicity variations associated with aseismic transients in Guerrero, Mexico, 1995-2006. <i>Earth and Planetary Science Letters</i> , <b>2007</b> , 262, 493-504	5.3	21
38	Crack tip singular fields in ductile crystals with Taylor power-law hardening. I: Anti-plane shear. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1988</b> , 36, 189-214	5	20
37	The elastic-plastic mechanics of crack extension. <i>International Journal of Fracture Mechanics</i> , <b>1968</b> , 4, 41		18
36	A Model for the Downstream Evolution of Temperate Ice and Subglacial Hydrology Along Ice Stream Shear Margins. <i>Journal of Geophysical Research F: Earth Surface</i> , <b>2018</b> , 123, 1682-1698	3.8	16
35	Tsunami Wave Analysis and Possibility of Splay Fault Rupture During the 2004 Indian Ocean Earthquake. <i>Pure and Applied Geophysics</i> , <b>2012</b> , 169, 1707-1735	2.2	16
34	Heating, weakening and shear localization in earthquake rupture. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2017</b> , 375,	3	15
33	Finite element simulations of dynamic shear rupture experiments and dynamic path selection along kinked and branched faults. <i>Journal of Geophysical Research</i> , <b>2009</b> , 114,		15
32	Penetration of a quasi-statically slipping crack into a seismogenic zone of heterogeneous fracture resistance. <i>Journal of Geophysical Research</i> , <b>1991</b> , 96, 21535-21548		15

31	On the theory of perfectly plastic anti-plane straining. <i>Mechanics of Materials</i> , <b>1984</b> , 3, 55-80	3.3	15
30	Influence of material contrast on fault branching behavior. <i>Geophysical Research Letters</i> , <b>2011</b> , 38, n/a-n/a	4.9	14
29	Influence of plastic deformation on bimaterial fault rupture directivity. <i>Journal of Geophysical Research</i> , <b>2011</b> , 116,		14
28	Path independent integrals in equilibrium electro-chemo-elasticity. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2017</b> , 107, 525-541	5	13
27	Elementary Engineering Fracture Mechanics. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>1975</b> , 42, 751-752	2.7	12
26	Exact results with the J-integral applied to free-boundary flows. <i>Journal of Fluid Mechanics</i> , <b>2002</b> , 461, 321-341	3.7	11
25	Rupture nucleation on an interface with a power-law relation between stress and displacement discontinuity. <i>International Journal of Fracture</i> , <b>2010</b> , 163, 1-13	2.3	9
24	How pore fluid pressurization influences crack tip processes during dynamic rupture. <i>Geophysical Research Letters</i> , <b>2011</b> , 38, n/a-n/a	4.9	8
23	Dislocation Nucleation Versus Cleavage in Ni <sub>3</sub> Al and Ni. <i>Materials Research Society Symposia Proceedings</i> , <b>1990</b> , 213, 243		8
22	Dynamic growth of anti-plane shear cracks in ideally plastic crystals. <i>Mechanics of Materials</i> , <b>1988</b> , 7, 163-173	3.3	8
21	Determining conditions that allow a shear margin to coincide with a Riedel channel. <i>Journal of Geophysical Research F: Earth Surface</i> , <b>2016</b> , 121, 1273-1294	3.8	8
20	Constitutive Relations for Fault Slip and Earthquake Instabilities <b>1983</b> , 443-475		7
19	The Path-Independent M Integral Implies the Creep Closure of Englacial and Subglacial Channels. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>2017</b> , 84,	2.7	6
18	Elastic-plastic fracture mechanics. <i>Engineering Fracture Mechanics</i> , <b>1973</b> , 5, 1019-1022	4.2	6
17	EARTHQUAKE SEQUENCE CALCULATIONS WITH DYNAMIC WEAKENING MECHANISMS. <i>Springer Series in Geomechanics and Geoengineering</i> , <b>2011</b> , 149-152	0.1	6
16	New Perspectives on Crack and Fault Dynamics <b>2001</b> , 1-24		5
15	Two general integrals of singular crack tip deformation fields. <i>Journal of Elasticity</i> , <b>1988</b> , 20, 131-142	1.5	5
14	Mechanics of Brittle Cracking of Crystal Lattices and Interfaces <b>1987</b> , 23-43		5



13	Influence of Fluid-Assisted Healing on Fault Permeability Structure. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2020</b> , 125, e2020JB020553	3.6	5
12	Time Scale for Rapid Draining of a Surficial Lake Into the Greenland Ice Sheet. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>2015</b> , 82,	2.7	4
11	Elastic reciprocity and symmetry constraints on the stress field due to a surface-parallel distribution of dislocations. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2011</b> , 59, 753-757	5	4
10	Cristallisation par onde acoustique : le cas de l'Al <sub>2</sub> O <sub>3</sub> . <i>Comptes Rendus - Mecanique</i> , <b>2003</b> , 331, 601-607	2.1	2
9	Effect of Permeability Evolution in Fault Damage Zones on Earthquake Recurrence. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2021</b> , 126, e2021JB021787	3.6	2
8	Continuum Plasticity in Relation to Microscale Deformation Mechanisms <b>1973</b> , 93-106		2
7	Dislocation Pinning Effect of Grain Boundary Segregated Solute Atoms at a Crack Tip. <i>Materials Research Society Symposia Proceedings</i> , <b>1988</b> , 122, 361		1
6	Discussion: A Study of the Law of Crack Propagation (Yang, C. T., 1967, ASME J. Basic Eng., 89, pp. 487-493). <i>Journal of Basic Engineering</i> , <b>1967</b> , 89, 493-494		1
5	Some Studies of Crack Dynamics <b>2001</b> , 3-11		1
4	James R. Rice Receives 2012 Walter H. Bucher Medal: Response. <i>Eos</i> , <b>2013</b> , 94, 8-8	1.5	
3	NON-EQUILIBRIUM MODELS FOR DIFFUSIVE CAVITATION OF GRAIN INTERFACES <b>1983</b> , 87-106		
2	On the Calculation of Changes in the Earth's Inertia Tensor Due to Faulting. <i>Geophysical Journal International</i> , <b>1973</b> , 35, 373-373	2.6	
1	Rupture nucleation on an interface with a power-law relation between stress and displacement discontinuity. <i>IUTAM Symposium on Cellular, Molecular and Tissue Mechanics</i> , <b>2010</b> , 255-267	0.3	