John Rudnicki

List of Publications by Year
in descending order

55 papers	2,703 citations	186209 28 h-index	182361 51 g-index
66 all docs	66 docs citations	66 times ranked	1391 citing authors

#	Article	IF	Citations
1	Conditions for compaction bands in porous rock. Journal of Geophysical Research, 2000, 105, 21529-21536.	3.3	227
2	Fracture Mechanics Applied to the Earth's Crust. Annual Review of Earth and Planetary Sciences, 1980, 8, 489-525.	4.6	155
3	An Introduction to the Theory of Seismology. Journal of Applied Mechanics, Transactions ASME, 1986, 53, 732-733.	1.1	151
4	Anticrack inclusion model for compaction bands in sandstone. Journal of Geophysical Research, 2005, 110, .	3.3	151
5	Fluid mass sources and point forces in linear elastic diffusive solids. Mechanics of Materials, 1986, 5, 383-393.	1.7	144
6	The inception of faulting in a rock mass with a weakened zone. Journal of Geophysical Research, 1977, 82, 844-854.	3.3	114
7	Stabilization of rapid frictional slip on a weakening fault by dilatant hardening. Journal of Geophysical Research, 1988, 93, 4745-4757.	3.3	107
8	Compaction localization in the Earth and the laboratory: state of the research and research directions. Acta Geotechnica, 2007, 2, 1-15.	2.9	100
9	The effect of the intermediate principal stress on fault formation and fault angle in siltstone. Journal of Structural Geology, 2010, 32, 1701-1711.	1.0	89
10	Shear and compaction band formation on an elliptic yield cap. Journal of Geophysical Research, 2004, 109, .	3.3	84
11	Elliptic yield cap constitutive modeling for high porosity sandstone. International Journal of Solids and Structures, 2005, 42, 4574-4587.	1.3	79
12	Stability and localization of rapid shear in fluidâ€saturated fault gouge: 2. Localized zone width and strength evolution. Journal of Geophysical Research: Solid Earth, 2014, 119, 4334-4359.	1.4	77
13	Connecting microstructural attributes and permeability from 3D tomographic images of in situ shear-enhanced compaction bands using multiscale computations. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	75
14	A multiscale DEM-LBM analysis on permeability evolutions inside a dilatant shear band. Acta Geotechnica, 2013, 8, 465-480.	2.9	72
15	Multiscale method for characterization of porous microstructures and their impact on macroscopic effective permeability. International Journal for Numerical Methods in Engineering, 2011, 88, 1260-1279.	1.5	71
16	Stability and localization of rapid shear in fluidâ€saturated fault gouge: 1. Linearized stability analysis. Journal of Geophysical Research: Solid Earth, 2014, 119, 4311-4333.	1.4	67
17	Failure characteristics of two porous sandstones subjected to true triaxial stresses: Applied through a novel loading path. Journal of Geophysical Research: Solid Earth, 2017, 122, 2525-2540.	1.4	62
18	Physical models of earthquake instability and precursory processes. Pure and Applied Geophysics, 1988, 126, 531-554.	0.8	60

#	Article	IF	Citations
19	Localization: Shear Bands and Compaction Bands. International Geophysics, 2004, 89, 219-321.	0.6	57
20	Effective normal stress alteration due to pore pressure changes induced by dynamic slip propagation on a plane between dissimilar materials. Journal of Geophysical Research, 2006, 111, .	3.3	57
21	The application of a Matsuoka-Nakai-Lade-Duncan failure criterion to two porous sandstones. International Journal of Rock Mechanics and Minings Sciences, 2017, 92, 9-18.	2.6	51
22	Terrestrial sequestration of CO2: An assessment of research needs. Advances in Geophysics, 2001, 43, 97-IX.	1.1	48
23	Shear heating of a fluid-saturated slip-weakening dilatant fault zone 1. Limiting regimes. Journal of Geophysical Research, 2003, 108, .	3.3	47
24	Coupled deformation-diffusion effects on water-level changes due to propagating creep events. Pure and Applied Geophysics, 1985, 122, 560-582.	0.8	44
25	Energy release model of compaction band propagation. Geophysical Research Letters, 2005, 32, .	1.5	43
26	Plane Strain Dislocations in Linear Elastic Diffusive Solids. Journal of Applied Mechanics, Transactions ASME, 1987, 54, 545-552.	1.1	41
27	Tactile Sensing with Whiskers of Various Shapes: Determining the Three-Dimensional Location of Object Contact Based on Mechanical Signals at the Whisker Base. Soft Robotics, 2017, 4, 88-102.	4.6	40
28	Compaction Localization in Porous Sandstone: Implications for Reservoir Mechanics. Oil and Gas Science and Technology, 2002, 57, 591-599.	1.4	39
29	Shear properties of heterogeneous fluid-filled porous media with spherical inclusions. International Journal of Solids and Structures, 2016, 83, 154-168.	1.3	24
30	Dynamic stress intensity factor (Mode I) of a permeable penny-shaped crack in a fluid-saturated poroelastic solid. International Journal of Solids and Structures, 2017, 110-111, 127-136.	1.3	24
31	Effects of normal stress variations on frictional stability of a fluid-infiltrated fault. Journal of Geophysical Research, 2001, 106, 11353-11372.	3.3	22
32	Normal compression wave scattering by a permeable crack in a fluid-saturated poroelastic solid. Acta Mechanica Sinica/Lixue Xuebao, 2017, 33, 356-367.	1.5	22
33	Plane-Strain Shear Dislocations Moving Steadily in Linear Elastic Diffusive Solids. Journal of Applied Mechanics, Transactions ASME, 1990, 57, 32-39.	1.1	19
34	Dynamic bulk and shear moduli due to grain-scale local fluid flow in fluid-saturated cracked poroelastic rocks: Theoretical model. Journal of the Mechanics and Physics of Solids, 2016, 92, 28-54.	2.3	19
35	A Class of Elasticâ€Plastic Constitutive Laws for Brittle Rock. Journal of Rheology, 1984, 28, 759-778.	1.3	16
36	Models for compaction band propagation. Geological Society Special Publication, 2007, 284, 107-125.	0.8	16

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37	Slip on an Impermeable Fault in a Fluid-Saturated Rock Mass. Geophysical Monograph Series, 0, , 81-89.	0.1	15
38	The sliding wing crack-again!. Geophysical Research Letters, 1995, 22, 2901-2904.	1.5	14
39	Shear heating of a fluid-saturated slip-weakening dilatant fault zone: 2. Quasi-drained regime. Journal of Geophysical Research, 2003, 108, .	3.3	14
40	A mathematical model for seepage of deeply buried groundwater under higher pressure and temperature. Journal of Hydrology, 2006, 327, 42-54.	2.3	14
41	Dynamics anisotropy in a porous solid with aligned slit fractures. Journal of the Mechanics and Physics of Solids, 2020, 137, 103865.	2.3	14
42	Finite element simulations of Tennessee marble under plane strain laboratory testing: Effects of sampleâ€“platen friction on shear band onset. Mechanics of Materials, 2001, 33, 47-60.	1.7	13
43	Dynamic transverse shear modulus for a heterogeneous fluid-filled porous solid containing cylindrical inclusions. Geophysical Journal International, 2016, 206, 1677-1694.	1.0	13
44	Observation and modeling of the suction pump effect during rapid dilatant slip. Geophysical Research Letters, 2003, 30, n/a-n/a.	1.5	11
45	Dilatancy and Compaction of a Rateâ€andâ€State Fault in a Poroelastic Medium: Linearized Stability Analysis. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022071.	1.4	11
46	Rotation of principal stress axes caused by faulting. Geophysical Research Letters, 1979, 6, 135-138.	1.5	10
47	Plane-Strain Shear Dislocation on a Leaky Plane in a Poroelastic Solid. Journal of Applied Mechanics, Transactions ASME, 2017, 84, .	1.1	10
48	Constraints on the deformation of the vibrissa within the follicle. PLoS Computational Biology, 2021, 17, e1007887.	1.5	9
49	Deriving Biot-Gassmann relationship by inclusion-based method. Geophysics, 2016, 81, D657-D667.	1.4	8
50	Effect of Pressure Rate on Rate and State Frictional Slip. Geophysical Research Letters, 2020, 47, e2020GL089426.	1.5	8
51	Report looks at sequestering CO2beneath Earth's surface. Eos, 1999, 80, 607.	0.1	5
52	The Role of Stratigraphy and Loading History in Generating Complex Compaction Bands in Idealized Fieldâ€Scale Settings. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB020452.	1.4	5
53	Failure of Rocks in the Laboratory and in the Earth. , 2013, , 199-215.		4
54	Effect of rate dependence in shear heating of a fluid-saturated fault zone. , 2005, , .		1

#	Article	IF	Citations
55	Un modÃ¨le d'endommagement anisotrope pour roches fragiles: application au granite. Revue EuropÃ©enne De GÃ©nie Civil, 2002, 6, 49-58.	0.0	0