JÃ¼rg Schweizer

List of Publications by Year
in descending order

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142	4,419	94433	161849
papers	citations	37 h-index	54 g-index

199	199	199	1412
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Prevention of Hypothermia in the Aftermath of Natural Disasters in Areas at Risk of Avalanches, Earthquakes, Tsunamis and Floods. International Journal of Environmental Research and Public Health, 2022, 19, 1098.	2.6	11
2	GNSS signal-based snow water equivalent determination for different snowpack conditions along a steep elevation gradient. Cryosphere, 2022, 16, 505-531.	3.9	8
3	Crack propagation speeds in weak snowpack layers. Journal of Glaciology, 2022, 68, 557-570.	2.2	6
4	Data-driven automated predictions of the avalanche danger level for dry-snow conditions in Switzerland. Natural Hazards and Earth System Sciences, 2022, 22, 2031-2056.	3.6	11
5	Hypoxia and hypercapnia effects on cerebral oxygen saturation in avalanche burial: A pilot human experimental study. Resuscitation, 2021, 158, 175-182.	3.0	18
6	Effects of Climate Change on Avalanche Accidents and Survival. Frontiers in Physiology, 2021, 12, 639433.	2.8	27
7	Micro-mechanical insights into the dynamics of crack propagation in snow fracture experiments. Scientific Reports, 2021, 11, 11711.	3.3	12
8	Modeling spatially distributed snow instability at a regional scale using Alpine3D. Journal of Glaciology, 2021, 67, 1147-1162.	2.2	7
9	Dynamic crack propagation in weak snowpack layers: insights from high-resolution, high-speed photography. Cryosphere, 2021, 15, 3539-3553.	3.9	8
10	Avalanche danger level characteristics from field observations of snow instability. Cryosphere, 2021, 15, 3293-3315.	3.9	10
11	Snow avalanches. , 2021, , 377-416.		14
12	Studying Snow Failure With Fiber Bundle Models. Frontiers in Physics, 2020, 8, .	2.1	10
13	On the relation between avalanche occurrence and avalanche danger level. Cryosphere, 2020, 14, 737-750.	3.9	31
14	Evaluating the performance of an operational infrasound avalanche detection system at three locations in the Swiss Alps during two winter seasons. Cold Regions Science and Technology, 2020, 173, 102962.	3.5	17
15	Micromechanical modeling of snow failure. Cryosphere, 2020, 14, 39-49.	3.9	16
16	On snow stability interpretation of extended column test results. Natural Hazards and Earth System Sciences, 2020, 20, 1941-1953.	3.6	9
17	Sensitivity of modeled snow stability data to meteorological input uncertainty. Natural Hazards and Earth System Sciences, 2020, 20, 2873-2888.	3.6	8
18	On the importance of snowpack stability, the frequency distribution of snowpack stability, and avalanche size in assessing the avalanche danger level. Cryosphere, 2020, 14, 3503-3521.	3.9	16

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19	Automatic detection of avalanches combining array classification and localization. Earth Surface Dynamics, 2019, 7, 491-503.	2.4	13
20	Comparing measurements of snow mechanical properties relevant for slab avalanche release. Journal of Glaciology, 2019, 65, 55-67.	2.2	17
21	Retrieval of Snow Water Equivalent, Liquid Water Content, and Snow Height of Dry and Wet Snow by Combining GPS Signal Attenuation and Time Delay. Water Resources Research, 2019, 55, 4465-4487.	4.2	42
22	Modeling Snow Failure Behavior and Concurrent Acoustic Emissions Signatures With a Fiber Bundle Model. Geophysical Research Letters, 2019, 46, 6653-6662.	4.0	5
23	Validating modeled critical crack length for crack propagation in the snow cover model SNOWPACK. Cryosphere, 2019, 13, 3353-3366.	3.9	13
24	Localization of seismic events produced by avalanches using multiple signal classification. Geophysical Journal International, 2018, , .	2.4	12
25	Acoustic emission signatures prior to snow failure. Journal of Glaciology, 2018, 64, 543-554.	2.2	12
26	Fiber-bundle model with time-dependent healing mechanisms to simulate progressive failure of snow. Physical Review E, 2018, 98, 023002.	2.1	12
27	Describing Snow Instability by Failure Initiation, Crack Propagation, and Slab Tensile Support. Geophysical Research Letters, 2018, 45, 7019-7027.	4.0	31
28	Automatic detection of snow avalanches in continuous seismic data using hidden Markov models. Natural Hazards and Earth System Sciences, 2018, 18, 383-396.	3.6	23
29	Stress Concentrations in Weak Snowpack Layers and Conditions for Slab Avalanche Release. Geophysical Research Letters, 2018, 45, 8363-8369.	4.0	10
30	Snow Water Equivalent of Dry Snow Derived From GNSS Carrier Phases. IEEE Transactions on Geoscience and Remote Sensing, 2018, 56, 3561-3572.	6.3	33
31	Inversion of airborne geophysics over the DO-27/DO-18 kimberlites â€" Part 1: Potential fields. Interpretation, 2017, 5, T299-T311.	1.1	19
32	Snowpack response to directed gas explosions on level ground. Cold Regions Science and Technology, 2017, 144, 73-88.	3.5	4
33	On forecasting wet-snow avalanche activity using simulated snow cover data. Cold Regions Science and Technology, 2017, 144, 28-38.	3.5	33
34	On using local avalanche danger level estimates for regional forecast verification. Cold Regions Science and Technology, 2017, 144, 52-62.	3.5	24
35	Effects of snow properties on humans breathing into an artificial air pocket â€" an experimental field study. Scientific Reports, 2017, 7, 17675.	3.3	26
36	Snow fracture in relation to slab avalanche release: critical state for the onset of crack propagation. Cryosphere, 2017, 11, 217-228.	3.9	68

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37	A concept for optimizing avalanche rescue strategies using a Monte Carlo simulation approach. PLoS ONE, 2017, 12, e0175877.	2.5	10
38	Temporal evolution of crack propagation propensity in snow in relation to slab and weak layer properties. Cryosphere, 2016, 10, 2637-2653.	3.9	20
39	Snow instability evaluation: calculating the skier-induced stress in a multi-layered snowpack. Natural Hazards and Earth System Sciences, 2016, 16, 775-788.	3.6	23
40	Snow instability patterns at the scale of a small basin. Journal of Geophysical Research F: Earth Surface, 2016, 121, 257-282.	2.8	16
41	Estimating the effective elastic modulus and specific fracture energy of snowpack layers from field experiments. Journal of Glaciology, 2016, 62, 997-1007.	2.2	47
42	The Influence of Snow Density on O2 and CO2 Levels in Subjects Breathing into an Artificial Airpocket. Wilderness and Environmental Medicine, 2016, 27, 428.	0.9	0
43	Forecasting snow avalanches using avalanche activity data obtained through seismic monitoring. Cold Regions Science and Technology, 2016, 132, 68-80.	3.5	19
44	A synthetic study to assess the applicability of full-waveform inversion to infer snow stratigraphy from upward-looking ground-penetrating radar data. Geophysics, 2016, 81, WA213-WA223.	2.6	9
45	Speed and attenuation of acoustic waves in snow: Laboratory experiments and modeling with Biot's theory. Cold Regions Science and Technology, 2016, 125, 1-11.	3.5	40
46	Relating simple drivers to snow instability. Cold Regions Science and Technology, 2015, 120, 168-178.	3.5	14
47	Seasonal and diurnal cycles of liquid water in snowâ€”Measurements and modeling. Journal of Geophysical Research F: Earth Surface, 2015, 120, 2139-2154.	2.8	52
48	Modeling of crack propagation in weak snowpack layers using the discrete element method. Cryosphere, 2015, 9, 1915-1932.	3.9	51
49	A process-based approach to estimate point snow instability. Cryosphere, 2015, 9, 837-847.	3.9	45
50	A new mixedâ€mode failure criterion for weak snowpack layers. Geophysical Research Letters, 2015, 42, 1427-1432.	4.0	41
51	Influence of weak layer heterogeneity and slab properties on slab tensile failure propensity and avalanche release area. Cryosphere, 2015, 9, 795-804.	3.9	22
52	Robust snow avalanche detection using supervised machine learning with infrasonic sensor arrays. Cold Regions Science and Technology, 2015, 111, 60-66.	3.5	36
53	Field measurements of snowpack response to explosive loading. Cold Regions Science and Technology, 2015, 120, 179-190.	3.5	5
54	A novel sensor combination (upGPRâ€GPS) to continuously and nondestructively derive snow cover properties. Geophysical Research Letters, 2015, 42, 3397-3405.	4.0	40

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55	Snow Avalanches. , 2015, , 395-436.		6
56	Measuring and localizing acoustic emission events in snow prior to fracture. Cold Regions Science and Technology, 2015, 110, 160-169.	3.5	29
57	A new index combining weak layer and slab properties for snow instability prediction. Natural Hazards and Earth System Sciences, 2015, 15, 109-118.	3.6	11
58	Measuring Snow Liquid Water Content with Low-Cost GPS Receivers. Sensors, 2014, 14, 20975-20999.	3.8	52
59	Assessing Approaches for Determination of Liquid Water in Snow. Eos, 2014, 95, 328-328.	0.1	1
60	Hardness estimation and weak layer detection in simulated snow stratigraphy. Cold Regions Science and Technology, 2014, 103, 82-90.	3.5	16
61	Upward-looking L-band FMCW radar for snow cover monitoring. Cold Regions Science and Technology, 2014, 103, 31-40.	3.5	27
62	Evaluation of slope stability with respect to snowpack spatial variability. Journal of Geophysical Research F: Earth Surface, 2014, 119, 1783-1799.	2.8	35
63	Continuous snowpack monitoring using upward-looking ground-penetrating radar technology. Journal of Glaciology, 2014, 60, 509-525.	2.2	61
64	Weak layer fracture: facets and depth hoar. Cryosphere, 2013, 7, 1447-1453.	3.9	20
65	Analysis of the snow-atmosphere energy balance during wet-snow instabilities and implications for avalanche prediction. Cryosphere, 2013, 7, 205-216.	3.9	39
66	Automatically Detecting Avalanche Events in Passive Seismic Data. , 2012, , .		18
67	A new method for visualizing snow stability profiles. Cold Regions Science and Technology, 2012, 78, 64-72.	3.5	14
68	The effect of surface warming on slab stiffness and the fracture behavior of snow. Cold Regions Science and Technology, 2012, 83-84, 30-36.	3.5	19
69	Measuring spatial variations of weak layer and slab properties with regard to snow slope stability. Cold Regions Science and Technology, 2011, 65, 234-241.	3.5	22
70	Upward-looking ground-penetrating radar for measuring wet-snow properties. Cold Regions Science and Technology, 2011, 69, 129-138.	3.5	52
71	Measurements of weak layer fracture energy. Cold Regions Science and Technology, 2011, 69, 139-144.	3.5	35
72	Monitoring avalanche activity using a seismic sensor. Cold Regions Science and Technology, 2011, 69, 165-176.	3.5	66

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73	Seismic sensor array for monitoring an avalanche start zone: design, deployment and preliminary results. Journal of Glaciology, 2011, 57, 267-276.	2.2	49
74	Wet-snow instabilities: comparison of measured and modelled liquid water content and snow stratigraphy. Annals of Glaciology, 2011, 52, 201-208.	1.4	62
75	Using stability tests and regional avalanche danger to estimate the local avalanche danger. Annals of Glaciology, 2010, 51, 176-186.	1.4	7
76	Snowpack tests for assessing snow-slope instability. Annals of Glaciology, 2010, 51, 187-194.	1.4	34
77	Measurement of the deformation field associated with fracture propagation in weak snowpack layers. Journal of Geophysical Research, 2010, 115, .	3.3	40
78	Failure of a layer of buried surface hoar. Geophysical Research Letters, 2010, 37, .	4.0	39
79	On stability sampling strategy at the slope scale. Cold Regions Science and Technology, 2010, 64, 104-109.	3.5	4
80	Load-controlled test apparatus for snow. Cold Regions Science and Technology, 2010, 62, 119-125.	3.5	22
81	Statistical evaluation of local to regional snowpack stability using simulated snow-cover data. Cold Regions Science and Technology, 2010, 64, 110-118.	3.5	14
82	Applied snow and avalanche research. Cold Regions Science and Technology, 2010, 64, 69-72.	3.5	2
83	Stability algorithm for snow micro-penetrometer measurements. Journal of Glaciology, 2009, 55, 805-813.	2.2	20
84	Statistical forecasting of regional avalanche danger using simulated snow-cover data. Journal of Glaciology, 2009, 55, 761-768.	2.2	41
85	Characteristics of wet-snow avalanche activity: 20Âyears of observations from a high alpine valley (Dischma, Switzerland). Natural Hazards, 2009, 50, 97-108.	3.4	90
86	On forecasting large and infrequent snow avalanches. Cold Regions Science and Technology, 2009, 59, 234-241.	3.5	59
87	Field observations for estimating the local avalanche danger in the Columbia Mountains of Canada. Cold Regions Science and Technology, 2009, 58, 84-91.	3.5	24
88	Comparison of snow stability tests: Extended column test, rutschblock test and compression test. Cold Regions Science and Technology, 2009, 59, 217-226.	3.5	20
89	Survival chance optimized search strip width in avalanche rescue. Cold Regions Science and Technology, 2009, 59, 259-266.	3.5	4
90	Comparison of micro-structural snowpack parameters derived from penetration resistance measurements with fracture character observations from compression tests. Cold Regions Science and Technology, 2009, 59, 193-201.	3.5	18

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91	Modelling snow failure with a fibre bundle model. Journal of Glaciology, 2009, 55, 997-1002.	2.2	42
92	Review of spatial variability of snowpack properties and its importance for avalanche formation. Cold Regions Science and Technology, 2008, 51, 253-272.	3.5	112
93	Snowpack observations and fracture concepts for skier-triggering of dry-snow slab avalanches. Cold Regions Science and Technology, 2008, 51, 112-121.	3.5	25
94	Influence of snowpack layering on human-triggered snow slab avalanche release. Cold Regions Science and Technology, 2008, 54, 176-182.	3.5	33
95	Variations in snow surface properties at the snowpack-depth, the slope and the basin scale. Journal of Glaciology, 2008, 54, 846-856.	2.2	8
96	Effect of mountain permafrost on snowpack stability. Cold Regions Science and Technology, 2007, 47, 43-49.	3.5	8
97	A threshold sum approach to stability evaluation of manual snow profiles. Cold Regions Science and Technology, 2007, 47, 50-59.	3.5	52
98	Snowpack stability information derived from the SnowMicroPen signal. Cold Regions Science and Technology, 2007, 47, 102-107.	3.5	13
99	Snow cover spatial variability at multiple scales: Characteristics of a layer of buried surface hoar. Cold Regions Science and Technology, 2007, 47, 207-223.	3.5	25
100	Title is missing!. Cold Regions Science and Technology, 2007, 49, 1.	3.5	0
101	Critical energy release rates of weak snowpack layers determined in field experiments. Geophysical Research Letters, 2007, 34, .	4.0	68
102	Field observations on spatial variability of surface hoar at the basin scale. Journal of Geophysical Research, 2007, 112, .	3.3	27
103	Field measurements of sintering after fracture of snowpack weak layers. Geophysical Research Letters, 2006, 33, .	4.0	14
104	Fracture toughness of dry snow slab avalanches from field measurements. Journal of Geophysical Research, 2006, 111, .	3.3	20
105	Evaluating and improving the stability predictions of the snow cover model SNOWPACK. Cold Regions Science and Technology, 2006, 46, 52-59.	3.5	49
106	The energy release rate of mode II fractures in layered snow samples. International Journal of Fracture, 2006, 139, 461-475.	2.2	15
107	On size and shape effects in snow fracture toughness measurements. Cold Regions Science and Technology, 2005, 43, 24-35.	3.5	18
108	On the fracture toughness of snow. Annals of Glaciology, 2004, 38, 1-8.	1.4	38

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109	Spatial variability of micropenetration resistance in snow layers on a small slope. Annals of Glaciology, 2004, 38, 202-208.	1.4	46
110	Snow avalanche formation. Reviews of Geophysics, 2003, 41, .	23.0	456
111	Snowpack properties for snow profile analysis. Cold Regions Science and Technology, 2003, 37, 233-241.	3.5	54
112	Verification of regional snowpack stability and avalanche danger. Cold Regions Science and Technology, 2003, 37, 277-288.	3.5	74
113	Testing the performance of avalanche transceivers. Cold Regions Science and Technology, 2003, 37, 429-438.	3.5	12
114	Snow stability variation on small slopes. Cold Regions Science and Technology, 2003, 37, 453-465.	3.5	36
115	Fracture toughness of snow in shear under friction. Physical Review E, 2002, 66, 027103.	2.1	19
116	The temperature dependence of the effective elastic shear modulus of snow. Cold Regions Science and Technology, 2002, 35, 55-64.	3.5	15
117	Fracture toughness of snow in shear and tension. Scripta Materialia, 2002, 46, 425-429.	5.2	33
118	Snow profile interpretation for stability evaluation. Cold Regions Science and Technology, 2001, 33, 179-188.	3.5	50
119	Characteristics of human-triggered avalanches. Cold Regions Science and Technology, 2001, 33, 147-162.	3.5	69
120	Snow cover properties for skier triggering of avalanches. Cold Regions Science and Technology, 2001, 33, 207-221.	3.5	79
121	Rheological measurements of the viscoelastic properties of snow. Annals of Glaciology, 2001, 32, 44-50.	1.4	43
122	The skierâ€™s zone of influence in triggering slab avalanches. Annals of Glaciology, 2001, 32, 314-320.	1.4	51
123	Texture and strength changes of buried surface-hoar layers with implications for dry snow-slab avalanche release. Journal of Glaciology, 2000, 46, 151-160.	2.2	56
124	Skier triggering, snow temperatures and the stability index for dry-slab avalanche initiation. Journal of Glaciology, 1999, 45, 190-200.	2.2	8
125	Skier triggering, snow temperatures and the stability index for dry-slab avalanche initiation. Journal of Glaciology, 1999, 45, 190-200.	2.2	31
126	Effects of surface warming of a dry snowpack. Cold Regions Science and Technology, 1999, 30, 59-65.	3.5	10

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127	Review of dry snow slab avalanche release. Cold Regions Science and Technology, 1999, 30, 43-57.	3.5	76
128	Skier triggering, snow temperatures and the stability index for dry-slab avalanche initiation. Journal of Glaciology, 1999, 45, 190-200.	2.2	47
129	Spatial characteristics of avalanche activity in an Alpine valley â€" a GIS approach. Annals of Glaciology, 1998, 26, 329-336.	1.4	13
130	Laboratory experiments on shear failure of snow. Annals of Glaciology, 1998, 26, 97-102.	1.4	14
131	Laboratory experiments on shear failure of snow. Annals of Glaciology, 1998, 26, 97-102.	1.4	60
132	Spatial characteristics of avalanche activity in an Alpine valley â€" a GIS approach. Annals of Glaciology, 1998, 26, 329-336.	1.4	24
133	Avalanche forecasting â€" an expert system approach. Journal of Glaciology, 1996, 42, 318-332.	2.2	50
134	Avalanche forecasting â€" an expert system approach. Journal of Glaciology, 1996, 42, 318-332.	2.2	9
135	Snow mechanics and avalanche formation: field experiments on the dynamic response of the snow cover. Surveys in Geophysics, 1995, 16, 621-633.	4.6	34
136	A Hybrid Expert System for Avalanche Forecasting. , 1994, , 148-153.		6
137	The influence of the layered character of snow cover on the triggering of slab avalanches. Annals of Glaciology, 1993, 18, 193-198.	1.4	16
138	The influence of the layered character of snow cover on the triggering of slab avalanches. Annals of Glaciology, 1993, 18, 193-198.	1.4	31
139	The role of bed separation and friction in sliding over an undeformable bed. Journal of Glaciology, 1992, 38, 77-92.	2.2	2
140	The role of bed separation and friction in sliding over an undeformable bed. Journal of Glaciology, 1992, 38, 77-92.	2.2	43
141	Optimization of the Drabkin monochromator. Nuclear Instruments & Methods, 1979, 158, 395-397.	1.2	12
142	Review and future challenges in snow avalanche risk analysis. , 0, , 49-62.		17