Betty Sovilla

List of Publications by Year
in descending order

39 papers	1,211 citations	361413 20 h-index	377865 34 g-index
45 all docs	45 docs citations	45 times ranked	664 citing authors

#	Article	IF	Citations
1	Field experiments and numerical modeling of mass entrainment in snow avalanches. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	162
2	Impact pressures and flow regimes in dense snow avalanches observed at the VallÃ©e de la Sionne test site. Journal of Geophysical Research, 2008, 113, .	3.3	96
3	Measured shear rates in large dry and wet snow avalanches. Journal of Glaciology, 2009, 55, 327-338.	2.2	73
4	Observations and modelling of snow avalanche entrainment. Natural Hazards and Earth System Sciences, 2002, 2, 169-179.	3.6	49
5	Measurements of mass balance in dense snow avalanche events. Annals of Glaciology, 2001, 32, 230-236.	1.4	47
6	Influence of snow cover properties on avalanche dynamics. Cold Regions Science and Technology, 2014, 97, 121-131.	3.5	47
7	Measurements and analysis of full-scale avalanche impact pressure at the VallÃ©e de la Sionne test site. Cold Regions Science and Technology, 2008, 51, 122-137.	3.5	46
8	Variation of deposition depth with slope angle in snow avalanches: Measurements from VallÃ©e de la Sionne. Journal of Geophysical Research, 2010, 115, .	3.3	45
9	On the complementariness of infrasound and seismic sensors for monitoring snow avalanches. Natural Hazards and Earth System Sciences, 2011, 11, 2355-2370.	3.6	42
10	Highâ€resolution radar measurements of snow avalanches. Geophysical Research Letters, 2013, 40, 727-731.	4.0	40
11	The structure of powder snow avalanches. Comptes Rendus Physique, 2015, 16, 97-104.	0.9	40
12	On snow entrainment in avalanche dynamics calculations. Cold Regions Science and Technology, 2007, 47, 69-79.	3.5	39
13	Granulation of snow: From tumbler experiments to discrete element simulations. Journal of Geophysical Research F: Earth Surface, 2015, 120, 1107-1126.	2.8	39
14	GEODAR Data and the Flow Regimes of Snow Avalanches. Journal of Geophysical Research F: Earth Surface, 2018, 123, 1272-1294.	2.8	37
15	The dynamics of surges in the 3 February 2015 avalanches in VallÃ©e de la Sionne. Journal of Geophysical Research F: Earth Surface, 2016, 121, 2192-2210.	2.8	34
16	Regional evaluation of three day snow depth for avalanche hazard mapping in Switzerland. Natural Hazards and Earth System Sciences, 2008, 8, 685-705.	3.6	31
17	Slow drag in wet-snow avalanche flow. Journal of Glaciology, 2010, 56, 587-592.	2.2	27
18	Influence of snow depth distribution on surface roughness in alpine terrain: a multi-scale approach. Cryosphere, 2014, 8, 547-569.	3.9	25

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19	Potential slab avalanche release area identification from estimated winter terrain: a multi-scale, fuzzy logic approach. Natural Hazards and Earth System Sciences, 2016, 16, 2211-2225.	3.6	25
20	Effects of flow regime and sensor geometry on snow avalanche impact-pressure measurements. Journal of Glaciology, 2011, 57, 277-288.	2.2	24
21	Three-dimensional and real-scale modeling of flow regimes in dense snow avalanches. Landslides, 2021, 18, 3393-3406.	5.4	23
22	Gravitational wet avalanche pressure on pylon-like structures. Cold Regions Science and Technology, 2016, 126, 66-75.	3.5	21
23	Cold-to-warm flow regime transition in snow avalanches. Cryosphere, 2018, 12, 3759-3774.	3.9	20
24	Deducing avalanche size and flow regimes from seismic measurements. Cold Regions Science and Technology, 2016, 121, 25-41.	3.5	19
25	Evaluation of probabilistic snow avalanche simulation ensembles with Doppler radar observations. Cold Regions Science and Technology, 2014, 97, 151-158.	3.5	18
26	The Intermittency Regions of Powder Snow Avalanches. Journal of Geophysical Research F: Earth Surface, 2018, 123, 2525-2545.	2.8	17
27	Velocity profile inversion in dense avalanche flow. Annals of Glaciology, 2010, 51, 27-31.	1.4	16
28	The mechanical origin of snow avalanche dynamics and flow regime transitions. Cryosphere, 2020, 14, 3381-3398.	3.9	16
29	Two-dimensional radar imaging of flowing avalanches. Cold Regions Science and Technology, 2014, 102, 41-51.	3.5	14
30	Linking snow depth to avalanche release area size: measurements from the VallÃ©e de la Sionne field site. Natural Hazards and Earth System Sciences, 2016, 16, 1953-1965.	3.6	11
31	Decoupling the Role of Inertia, Friction, and Cohesion in Dense Granular Avalanche Pressure Buildâ€up on Obstacles. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2019JF005192.	2.8	11
32	Destructiveness of pyroclastic surges controlled by turbulent fluctuations. Nature Communications, 2021, 12, 7306.	12.8	11
33	Wet-snow avalanche interaction with a deflecting dam: field observations and numerical simulations in a case study. Natural Hazards and Earth System Sciences, 2012, 12, 1407-1423.	3.6	9
34	Thermal energy in dry snow avalanches. Cryosphere, 2015, 9, 1819-1830.	3.9	8
35	Physics-based estimates of drag coefficients for the impact pressure calculation of dense snow avalanches. Engineering Structures, 2022, 254, 113478.	5.3	8
36	Regional snow-depth estimates for avalanche calculations using a two-dimensional model with snow entrainment. Annals of Glaciology, 2008, 49, 63-70.	1.4	7

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37	The concept of the mobilized domain: how it can explain and predict the forces exerted by a cohesive granular avalanche on an obstacle. Granular Matter, 2022, 24, 45.	2.2	6
38	Looking inside an avalanche using a novel radar system. Geology Today, 2014, 30, 21-25.	0.9	3
39	Numerical investigation of the effect of cohesion and ground friction on snow avalanches flow regimes. PLoS ONE, 2022, 17, e0264033.	2.5	3