Tomasz Wierzbicki

List of Publications by Year in Descending Order

70 papers	8,840 citations	40 h-index	73 g-index
73 ext. papers	10,229 ext. citations	4.7 avg, IF	6.69 L-index

#	Paper	IF	Citations
70	Effect of receptors on the resonant and transient harmonic vibrations of Coronavirus. *Journal of the Mechanics and Physics of Solids*, **2021**, 150, 104369	5	5
69	Performance of Li-ion pouch batteryunder a high-velocity impact: experiment and numerical simulation. *International Journal of Impact Engineering*, **2021**, 155, 103915	4	6
68	On mechanical response of Zircaloy-4 under a wider range of stress states: From uniaxial tension to uniaxial compression. *International Journal of Solids and Structures*, **2020**, 206, 198-223	3.1	9
67	Mechanical Deformation of Lithium-Ion Pouch Cells under In-Plane LoadsPart I: Experimental Investigation. *Journal of the Electrochemical Society*, **2020**, 167, 090533	3.9	12
66	On ductile fracture of 316L stainless steels at room and cryogenic temperature level: An engineering approach to determine material parameters. *Materialia*, **2020**, 10, 100624	3.2	9
65	Mechanical Deformation of Lithium-Ion Pouch Cells under in-plane LoadsPart II: Computational Modeling. *Journal of the Electrochemical Society*, **2020**, 167, 090556	3.9	11
64	Microstructural deformation patterns of a highly orthotropic polypropylene separator of lithium-ion batteries: Mechanism, model, and theory. *Extreme Mechanics Letters*, **2020**, 37, 100705	3.9	9
63	Data-Driven Safety Envelope of Lithium-Ion Batteries for Electric Vehicles. *Joule*, **2019**, 3, 2703-2715	27.8	64
62	Deformation and failure of lithium-ion batteries treated as a discrete layered structure. *International Journal of Plasticity*, **2019**, 121, 293-311	7.6	45
61	Prediction of shear crack formation of lithium-ion batteries under rod indentation: Comparison of seven failure criteria. *Engineering Fracture Mechanics*, **2019**, 217, 106520	4.2	26
60	Mechanism of strengthening of battery resistance under dynamic loading. *International Journal of Impact Engineering*, **2019**, 131, 78-84	4	30
59	Failure in lithium-ion batteries under transverse indentation loading. *Journal of Power Sources*, **2018**, 389, 148-159	8.9	47
58	A review of safety-focused mechanical modeling of commercial lithium-ion batteries. *Journal of Power Sources*, **2018**, 378, 153-168	8.9	204
57	Structural Designs for Electric Vehicle Battery Pack against Ground Impact **2018**,		8
56	Modeling of plasticity and fracture behavior of X65 steels: seam weld and seamless pipes. *International Journal of Fracture*, **2018**, 213, 17-36	2.3	15
55	Ductile tearing analysis of TC128 tank car steel under mode I loading condition. *Theoretical and Applied Fracture Mechanics*, **2018**, 96, 658-675	3.7	15
54	Effect of working environment and procedural strategies on mechanical performance of bioresorbable vascular scaffolds. *Acta Biomaterialia*, **2018**, 82, 34-43	10.8	14

53	Dynamic impact tests on lithium-ion cells. *International Journal of Impact Engineering*, **2017**, 108, 205-216	4	82
52	Experimental and numerical study on shear-punch test of 6060 T6 extruded aluminum profile. *International Journal of Mechanical Sciences*, **2016**, 118, 205-218	5.5	22
51	Deformation and failure mechanisms of 18650 battery cells under axial compression. *Journal of Power Sources*, **2016**, 336, 332-340	8.9	114
50	Prediction of crack initiation and propagation in X70 pipeline steels. *Engineering Fracture Mechanics* , **2016**, 168, 92-111	4.2	47
49	FE simulation of edge fracture considering pre-damage from blanking process. *International Journal of Solids and Structures*, **2015**, 71, 206-218	3.1	47
48	Modelling of cracks developed in lithium-ion cells under mechanical loading. *RSC Advances*, **2015**, 5, 80369-80380	3.7	92
47	Experimental and numerical study on the plane-strain blanking process on an AHSS sheet. *International Journal of Fracture*, **2015**, 194, 19-36	2.3	19
46	Characterization of plasticity and fracture of shell casing of lithium-ion cylindrical battery. *Journal of Power Sources*, **2015**, 280, 47-56	8.9	58
45	A comparative study of three groups of ductile fracture loci in the 3D space. *Engineering Fracture Mechanics*, **2015**, 135, 147-167	4.2	115
44	Sandia Fracture Challenge: blind prediction and full calibration to enhance fracture predictability. *International Journal of Fracture*, **2014**, 186, 155-175	2.3	23
43	Experiments and modeling of edge fracture for an AHSS sheet. *International Journal of Fracture*, **2014**, 187, 245-268	2.3	40
42	Characterizing and modeling mechanical properties and onset of short circuit for three types of lithium-ion pouch cells. *Journal of Power Sources*, **2014**, 247, 503-516	8.9	175
41	Damage of cells and battery packs due to ground impact. *Journal of Power Sources*, **2014**, 267, 78-97	8.9	132
40	Homogenized mechanical properties for the jellyroll of cylindrical Lithium-ion cells. *Journal of Power Sources*, **2013**, 241, 467-476	8.9	142
39	New calibration method for high and low triaxiality and validation on SENT specimens of API X70. *International Journal of Pressure Vessels and Piping*, **2013**, 111-112, 187-201	2.4	25
38	Calibration and finite element simulation of pouch lithium-ion batteries for mechanical integrity. *Journal of Power Sources*, **2012**, 201, 307-321	8.9	218
37	Modeling and short circuit detection of 18650 Li-ion cells under mechanical abuse conditions. *Journal of Power Sources*, **2012**, 220, 360-372	8.9	204
36	Mixed mode stable tearing of thin sheet Al 6061-T6 specimens: experimental measurements and finite element simulations using a modified Mohr-Coulomb fracture criterion. *International Journal of Fracture*, **2011**, 168, 53-71	2.3	21

35	AHSS Shear Fracture Predictions Based on a Recently Developed Fracture Criterion. *SAE International Journal of Materials and Manufacturing*, **2010**, 3, 723-731	1	10
34	Crash Safety of Lithium-Ion Batteries Towards Development of a Computational Model **2010**,		16
33	Prediction of shear-induced fracture in sheet metal forming. *Journal of Materials Processing Technology*, **2010**, 210, 1858-1869	5.3	169
32	Application of extended Mohr□Coulomb criterion to ductile fracture. *International Journal of Fracture*, **2010**, 161, 1-20	2.3	693
31	Partially coupled anisotropic fracture model for aluminum sheets. *Engineering Fracture Mechanics*, **2010**, 77, 1128-1152	4.2	155
30	Prediction of plane strain fracture of AHSS sheets with post-initiation softening. *International Journal of Solids and Structures*, **2010**, 47, 2316-2327	3.1	78
29	Numerical failure analysis of a stretch-bending test on dual-phase steel sheets using a phenomenological fracture model. *International Journal of Solids and Structures*, **2010**, 47, 3084-3102	3.1	131
28	On the Application of Stress Triaxiality Formula for Plane Strain Fracture Testing. *Journal of Engineering Materials and Technology, Transactions of the ASME*, **2009**, 131,	1.8	118
27	DUCTILE FRACTURE CHARACTERIZATION OF ALUMINUM ALLOY 2024-T351 USING DAMAGE PLASTICITY THEORY. *International Journal of Applied Mechanics*, **2009**, 01, 267-304	2.4	37
26	Numerical simulation of fracture mode transition in ductile plates. *International Journal of Solids and Structures*, **2009**, 46, 1423-1435	3.1	67
25	Relationships between Material Ductility and Characteristic Size of Porosity Correlated before/after Testing of a Cast Aluminum Alloy. *Journal of Solid Mechanics and Materials Engineering*, **2008**, 2, 924-942		6
24	Effects of Mold Media and Porosity on Ductile Fracture Properties of Cast Aluminum Alloy A356. *Zairyo/Journal of the Society of Materials Science, Japan*, **2008**, 57, 913-920	0.1	2
23	Forming severity concept for predicting sheet necking under complex loading histories. *International Journal of Mechanical Sciences*, **2008**, 50, 1012-1022	5.5	49
22	Ductile fracture initiation and propagation modeling using damage plasticity theory. *Engineering Fracture Mechanics*, **2008**, 75, 3276-3293	4.2	199
21	A new model of metal plasticity and fracture with pressure and Lode dependence. *International Journal of Plasticity*, **2008**, 24, 1071-1096	7.6	1000
20	Protection performance of double-layered metal shields against projectile impact. *Journal of Mechanics of Materials and Structures*, **2007**, 2, 1309-1329	1.2	53
19	Fracture of prismatic aluminum tubes under reverse straining. *International Journal of Impact Engineering*, **2006**, 32, 671-701	4	21
18	On the Crashworthiness of Shear-Rigid Sandwich Structures. *Journal of Applied Mechanics, Transactions ASME*, **2006**, 73, 633-641	2.7	1

17	Fracture prediction of thin plates under localized impulsive loading. Part I: dishing. *International Journal of Impact Engineering*, **2005**, 31, 1253-1276	4	45
16	On the cut-off value of negative triaxiality for fracture. *Engineering Fracture Mechanics*, **2005**, 72, 1049-1069	1.8	274
15	Fracture prediction of thin plates under localized impulsive loading. Part II: discing and petalling. *International Journal of Impact Engineering*, **2005**, 31, 1277-1308	4	69
14	Calibration and evaluation of seven fracture models. *International Journal of Mechanical Sciences*, **2005**, 47, 719-743	5.5	613
13	On fracture locus in the equivalent strain and stress triaxiality space. *International Journal of Mechanical Sciences*, **2004**, 46, 81-98	5.5	1226
12	Fracture prediction of thin plates under hemi-spherical punch with calibration and experimental verification. *International Journal of Mechanical Sciences*, **2004**, 46, 751-781	5.5	54
11	A Comparative Study on Various Ductile Crack Formation Criteria. *Journal of Engineering Materials and Technology, Transactions of the ASME*, **2004**, 126, 314-324	1.8	275
10	EFFECT OF FRACTURE CRITERIA ON HIGH VELOCITY PERFORATION OF THIN BEAMS. *International Journal of Computational Methods*, **2004**, 01, 171-200	1.1	20
9	Interactive Failure in High Velocity Impact of Two Box Beams **2003**, 23		1
8	Relative merits of single-cell, multi-cell and foam-filled thin-walled structures in energy absorption. *Thin-Walled Structures*, **2001**, 39, 287-306	4.7	338
7	Experimental and numerical studies of foam-filled sections. *International Journal of Impact Engineering*, **2000**, 24, 509-534	4	423
6	Effect of an ultralight metal filler on the bending collapse behavior of thin-walled prismatic columns. *International Journal of Mechanical Sciences*, **1999**, 41, 995-1019	5.5	102
5	The concept of double-walled sandwich columns for energy absorption. *International Journal of Crashworthiness*, **1999**, 4, 175-198	1	10
4	On the modeling of crush behavior of a closed-cell aluminum foam structure. *Journal of the Mechanics and Physics of Solids*, **1998**, 46, 645-669	5	121
3	Effect of an Ultralight Metal Filler on the Torsional Crushing Behaviour of Thin-Walled Prismatic Columns. *International Journal of Crashworthiness*, **1997**, 2, 305-332	1	11
2	Damage of plastic cylinders under localized pressure loading. *International Journal of Mechanical Sciences*, **1991**, 33, 999-1016	5.5	21
1	Crushing analysis of metal honeycombs. *International Journal of Impact Engineering*, **1983**, 1, 157-174	4	327