

# Sung-Tae Hong

## List of Publications by Year in descending order

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104  
papers

3,251  
citations

172207

29  
h-index

168136

53  
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105  
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105  
docs citations

105  
times ranked

2138  
citing authors

#	ARTICLE	IF	CITATIONS
1	A model for deformation behavior and mechanically induced martensitic transformation of metastable austenitic steel. <i>Acta Materialia</i> , 2004, 52, 5203-5214.	3.8	188
2	Electric current-induced annealing during uniaxial tension of aluminum alloy. <i>Scripta Materialia</i> , 2014, 75, 58-61.	2.6	186
3	Material properties of graphene/aluminum metal matrix composites fabricated by friction stir processing. <i>International Journal of Precision Engineering and Manufacturing</i> , 2014, 15, 1235-1239.	1.1	178
4	The mechanical behavior of 5052-H32 aluminum alloys under a pulsed electric current. <i>International Journal of Plasticity</i> , 2014, 58, 84-99.	4.1	168
5	Three-dimensional numerical and experimental investigation on friction stir welding processes of ferritic stainless steel. <i>Acta Materialia</i> , 2013, 61, 2649-2661.	3.8	117
6	Design method for TRIP-aided multiphase steel based on a microstructure-based modelling for transformation-induced plasticity and mechanically induced martensitic transformation. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 499, 462-468.	2.6	111
7	A review of electrically-assisted manufacturing. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2015, 2, 365-376.	2.7	108
8	Effect of material locations on properties of friction stir welding joints of dissimilar aluminium alloys. <i>Science and Technology of Welding and Joining</i> , 2010, 15, 331-336.	1.5	107
9	Electric current-assisted deformation behavior of Al-Mg-Si alloy under uniaxial tension. <i>International Journal of Plasticity</i> , 2017, 94, 148-170.	4.1	106
10	Microstructural analysis of friction stir welded ferritic stainless steel. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011, 528, 2889-2894.	2.6	96
11	Effect of electric current on recrystallization kinetics in interstitial free steel and AZ31 magnesium alloy. <i>Materials Characterization</i> , 2017, 133, 70-76.	1.9	93
12	Open-cell aluminum foams filled with phase change materials as compact heat sinks. <i>Scripta Materialia</i> , 2006, 55, 887-890.	2.6	92
13	Microstructure and mechanical properties of friction stir welded and laser welded high entropy alloy CrMnFeCoNi. <i>Metals and Materials International</i> , 2018, 24, 73-83.	1.8	84
14	Electroplastic behaviour in an aluminium alloy and dislocation density based modelling. <i>Materials and Design</i> , 2017, 124, 131-142.	3.3	77
15	Microstructural evolution in friction stir welding of high-strength linepipe steel. <i>Materials &amp; Design</i> , 2012, 34, 258-267.	5.1	68
16	A model for transformation plasticity during bainite transformation of steel under external stress. <i>Acta Materialia</i> , 2003, 51, 4907-4917.	3.8	65
17	Effect of pulsed electric current on dissolution of Mg 17 Al 12 phases in as-extruded AZ91 magnesium alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 684, 668-676.	2.6	60
18	Formability of Al 5xxx Sheet Metals Using Pulsed Current for Various Heat Treatments. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2010, 132, .	1.3	53

#	ARTICLE	IF	CITATIONS
19	Microstructure and mechanical/electrochemical properties of friction stir butt welded joint of dissimilar aluminum and steel alloys. <i>Materials Characterization</i> , 2019, 154, 67-79.	1.9	49
20	Decoupling Thermal and Electrical Effect in an Electrically Assisted Uniaxial Tensile Test Using Finite Element Analysis. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015, 46, 3043-3051.	1.1	48
21	The effect of laser shock peening on the life and failure mode of a cold pilger die. <i>Journal of Materials Processing Technology</i> , 2008, 204, 486-491.	3.1	43
22	A microstructure-based analysis for transformation induced plasticity and mechanically induced martensitic transformation. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 485, 224-233.	2.6	39
23	Effect of electric current density on the mechanical property of advanced high strength steels under quasi-static tensile loads. <i>International Journal of Precision Engineering and Manufacturing</i> , 2014, 15, 1207-1213.	1.1	37
24	Niobium-clad 304L stainless steel PEMFC bipolar plate material. <i>Journal of Power Sources</i> , 2007, 168, 408-417.	4.0	34
25	Material properties of friction stir spot welded joints of dissimilar aluminum alloys. <i>Transactions of Nonferrous Metals Society of China</i> , 2012, 22, s605-s613.	1.7	34
26	A Constitutive Model for Transformation Superplasticity under External Stress during Phase Transformation of Steels.. <i>ISIJ International</i> , 2002, 42, 200-205.	0.6	31
27	Modified Johnson-Cook model incorporated with electroplasticity for uniaxial tension under a pulsed electric current. <i>Metals and Materials International</i> , 2018, 24, 42-50.	1.8	31
28	Solid-state dissimilar joining of stainless steel 316L and Inconel 718 alloys by electrically assisted pressure joining. <i>Materials Characterization</i> , 2019, 154, 161-168.	1.9	31
29	Joining and fabrication of metal matrix composites by friction stir welding/processing. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2018, 5, 151-172.	2.7	30
30	Ductility enhancement of tungsten after plastic deformation. <i>Journal of Alloys and Compounds</i> , 2019, 787, 801-814.	2.8	30
31	Relationship between formability and microstructure of Al alloy sheet locally modified by friction stir processing. <i>Scripta Materialia</i> , 2007, 57, 17-20.	2.6	29
32	Joint strength in high speed friction stir spot welded DP 980 steel. <i>International Journal of Precision Engineering and Manufacturing</i> , 2014, 15, 841-848.	1.1	28
33	Feasibility of electrically assisted progressive forging of aluminum 6061-T6 alloy. <i>CIRP Annals - Manufacturing Technology</i> , 2015, 64, 277-280.	1.7	27
34	Electrically assisted blanking using the electroplasticity of ultra-high strength metal alloys. <i>CIRP Annals - Manufacturing Technology</i> , 2014, 63, 273-276.	1.7	25
35	Comparison of microstructural and mechanical properties of friction stir spot welded ultra-high strength dual phase and complex phase steels. <i>Materials Characterization</i> , 2018, 139, 428-436.	1.9	25
36	Investigation of Die Stress Profiles During Powder Compaction Using Instrumented Die. <i>Journal of Materials Engineering and Performance</i> , 2008, 17, 382-386.	1.2	23

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37	Microtexture development during equibiaxial tensile deformation in monolithic and dual phase steels. <i>Acta Materialia</i> , 2011, 59, 5462-5471.	3.8	23
38	Nitride films as protective layers for metallic bipolar plates of polymer electrolyte membrane fuel cell stacks. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 4565-4572.	3.8	23
39	Spot welding of aluminum and cast iron by friction bit joining. <i>International Journal of Precision Engineering and Manufacturing</i> , 2013, 14, 1003-1006.	1.1	23
40	Local enhancement of the material properties of aluminium sheets by a combination of additive manufacturing and friction stir processing. <i>CIRP Annals - Manufacturing Technology</i> , 2019, 68, 289-292.	1.7	22
41	Mechanical properties of graphite/aluminum metal matrix composite joints by friction stir spot welding. <i>Journal of Mechanical Science and Technology</i> , 2014, 28, 499-504.	0.7	21
42	Experimental and Numerical Study on the Deformation Mechanism in AZ31B Mg Alloy Sheets Under Pulsed Electric-Assisted Tensile and Compressive Tests. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016, 47, 2783-2794.	1.1	21
43	Combination of nano-particle deposition system and friction stir spot welding for fabrication of carbon/aluminum metal matrix composite joints of dissimilar aluminum alloys. <i>CIRP Annals - Manufacturing Technology</i> , 2017, 66, 261-264.	1.7	21
44	An investigation of the microstructural effects on the mechanical and electrochemical properties of a friction stir processed equiatomic CrMnFeCoNi high entropy alloy. <i>Journal of Materials Science and Technology</i> , 2021, 87, 60-73.	5.6	21
45	Effect of tool geometry and process parameters on mechanical properties of friction stir spot welded dissimilar aluminum alloys. <i>International Journal of Precision Engineering and Manufacturing</i> , 2017, 18, 445-452.	1.1	20
46	Study of electrically-assisted indentation for surface texturing. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2016, 3, 161-165.	2.7	19
47	Microtexture Analysis of Friction Stir Welded Al 6061-T651 Plates. <i>Materials Science Forum</i> , 2005, 495-497, 901-906.	0.3	18
48	Investigation of the material flow and texture evolution in friction-stir welded aluminum alloy. <i>Metals and Materials International</i> , 2009, 15, 1027-1031.	1.8	18
49	Influences of tool plunge speed and tool plunge depth on friction spot joining of AA5454-O aluminum alloy plates with different thicknesses. <i>Transactions of Nonferrous Metals Society of China</i> , 2012, 22, s629-s633.	1.7	18
50	Effect of Pulsed Electric Current on TRIP-Aided Steel. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2019, 6, 315-327.	2.7	18
51	Microstructure reset-based self-healing method using sub-second electric pulsing for metallic materials. <i>Applied Materials Today</i> , 2020, 20, 100755.	2.3	17
52	Characterization of friction stir welded joint of low nickel austenitic stainless steel and modified ferritic stainless steel. <i>Metals and Materials International</i> , 2017, 23, 948-957.	1.8	16
53	Electrically assisted solid state lap joining of dissimilar steel S45C and aluminum 6061-T6 alloy. <i>Journal of Materials Research and Technology</i> , 2021, 12, 271-282.	2.6	16
54	Electron Beam Surface Treatment of 316L Austenitic Stainless Steel: Improvements in Hardness, Wear, and Corrosion Resistance. <i>Metals and Materials International</i> , 2021, 27, 953-961.	1.8	15

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55	Friction Stir Spot Butt Welding of Dissimilar S45C Steel and 6061-T6 Aluminum Alloy. <i>Metals</i> , 2021, 11, 1252.	1.0	15
56	Improvement of mechanical property of air plasma sprayed tungsten film using pulsed electric current treatment. <i>International Journal of Refractory Metals and Hard Materials</i> , 2016, 60, 99-103.	1.7	14
57	Probing the Mechanism of Friction Stir Welding with ALE Based Finite Element Simulations and Its Application to Strength Prediction of Welded Aluminum. <i>Metals and Materials International</i> , 2021, 27, 650-666.	1.8	14
58	Friction stir butt-welding of roll clad aluminum thin sheets: effect of microstructural and texture changes on mechanical properties. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022, 832, 142490.	2.6	14
59	Electrically assisted tensile behavior of complex phase ultra-high strength steel. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2016, 3, 325-333.	2.7	13
60	Electrically assisted pressure joining of titanium alloys. <i>Journal of Manufacturing Processes</i> , 2018, 35, 681-686.	2.8	13
61	Manufacturing of magnesium/aluminum bimetallic ring components by friction stir assisted simultaneous forging and solid-state joining. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2021, 8, 1429-1438.	2.7	13
62	Refill Friction Stir Spot Welding of Dissimilar AA6014 Al Alloy and Carbon-Fiber-Reinforced Polymer Composite. <i>Metals and Materials International</i> , 2021, 27, 639-649.	1.8	13
63	Friction stir welding of AA3003-clad AA6013 thin sheets: Microstructural changes related to tensile properties and fatigue failure mechanism. <i>Journal of Materials Research and Technology</i> , 2022, 17, 3221-3233.	2.6	12
64	Friction stir spot welded joints of 409L stainless steels fabricated by a convex shoulder tool. <i>Metals and Materials International</i> , 2013, 19, 1243-1250.	1.8	11
65	Process responses and resultant joint properties of friction stir welding of dissimilar 5083 and 6061 aluminum alloys. <i>Journal of Mechanical Science and Technology</i> , 2017, 31, 3955-3960.	0.7	11
66	Experimental and numerical studies on the electrochemical properties of an electrically assisted pressure joint of austenitic stainless steel and Ni-based superalloy. <i>Materials Characterization</i> , 2020, 165, 110404.	1.9	11
67	Influence of tool plunge depth and welding distance on friction stir lap welding of AA5454-O aluminum alloy plates with different thicknesses. <i>Transactions of Nonferrous Metals Society of China</i> , 2012, 22, s624-s628.	1.7	10
68	Diffusion Enhancement during Electrically Assisted Brazing of Ferritic Stainless Steel Alloys. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2018, 5, 613-621.	2.7	10
69	Friction stir butt welding of A5052-O aluminum alloy plates. <i>Transactions of Nonferrous Metals Society of China</i> , 2012, 22, s619-s623.	1.7	9
70	Three-Dimensional Numerical Model Considering Phase Transformation in Friction Stir Welding of Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015, 46, 6040-6051.	1.1	9
71	The Effect of Short Duration Electric Current on the Quasi-Static Tensile Behavior of Magnesium AZ31 Alloy. <i>Advances in Materials Science and Engineering</i> , 2016, 2016, 1-10.	1.0	9
72	Effectiveness of electrically assisted solid-state pressure joining using an additive manufactured porous interlayer. <i>CIRP Annals - Manufacturing Technology</i> , 2018, 67, 297-300.	1.7	9

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73	Electrically assisted stress relief annealing of automotive springs. <i>Journal of Mechanical Science and Technology</i> , 2017, 31, 3943-3948.	0.7	8
74	Intermetallic Evolution of Al-Si-Coated Hot Stamping Steel During Modified Electrically Assisted Rapid Heating. <i>Acta Metallurgica Sinica (English Letters)</i> , 2018, 31, 1327-1333.	1.5	8
75	The Effect of Pre-strain and Subsequent Electrically Assisted Annealing on the Mechanical Behaviors of Two Different Aluminum Alloys. <i>International Journal of Precision Engineering and Manufacturing</i> , 2020, 21, 2345-2358.	1.1	8
76	Effect of annealing on two different niobium-clad stainless steel PEMFC bipolar plate materials. <i>Transactions of Nonferrous Metals Society of China</i> , 2009, 19, s56-s60.	1.7	7
77	Annealing induced interfacial layers in niobium-clad stainless steel developed as a bipolar plate material for polymer electrolyte membrane fuel cell stacks. <i>Journal of Power Sources</i> , 2010, 195, 2592-2598.	4.0	7
78	Microforming of superplastic 5083 aluminum alloy. <i>Transactions of Nonferrous Metals Society of China</i> , 2012, 22, s656-s660.	1.7	7
79	Effects of friction stir processing on the thermal conductivity of a strain-hardened Al-Mg alloy. <i>International Journal of Precision Engineering and Manufacturing</i> , 2015, 16, 1969-1974.	1.1	7
80	Study on Microtexture and Martensite Formation of Friction Stir Lap-welded DP 590 Steel within A1 to A3 Temperature Range. <i>Journal of Materials Engineering and Performance</i> , 2017, 26, 3607-3613.	1.2	7
81	Galvanic Corrosion Assessment of Friction Stir Butt Welded Joint of Aluminum and Steel Alloys. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2020, 7, 905-911.	2.7	7
82	A comprehensive assessment of the galvanic corrosion behavior of an electrically assisted pressure joint of dissimilar stainless steel alloys under uniaxial tensile stress. <i>Journal of Materials Research and Technology</i> , 2022, , .	2.6	7
83	Electrically Assisted Solid-State Joining of CrMnFeCoNi High-Entropy Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2020, 51, 6142-6148.	1.1	6
84	Investigation of the unloading yield effect in 7075 Al alloys based on microstructural and digital image correlation analysis. <i>Materials Characterization</i> , 2021, 173, 110963.	1.9	6
85	Mechanical Behaviors of Friction Stir Spot Welded Joints of Dissimilar Ferrous Alloys under Opening-Dominant Combined Loads. <i>Advances in Materials Science and Engineering</i> , 2014, 2014, 1-12.	1.0	5
86	Tailoring of Mechanical Properties of Indirect Hot Stamping Steel Tubes by Laser Assisted Local Rapid Heating. <i>Journal of Iron and Steel Research International</i> , 2016, 23, 949-954.	1.4	5
87	Microstructural evolution and fatigue performance of dissimilar solid-state joints of SUS316L and SUS410. <i>Journal of Materials Research and Technology</i> , 2022, 16, 555-569.	2.6	5
88	Electrically assisted pressure joining of thin bi-layer aluminum-clad aluminum sheets. <i>International Journal of Advanced Manufacturing Technology</i> , 2022, 121, 4713-4723.	1.5	5
89	Effect of Electric Current Heat Treatment on Commercially Pure Titanium Sheets. <i>Metals</i> , 2021, 11, 783.	1.0	4
90	A Finite Element Simulation for Induction Heat Treatment of Automotive Drive Shaft. <i>ISIJ International</i> , 2020, 60, 1333-1341.	0.6	4

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91	Tailoring of mechanical properties of hydroformed aluminum tubes. Journal of Materials Processing Technology, 2007, 189, 477-482.	3.1	3
92	Failure behaviours of friction stir spot welded joints of dissimilar ferrous alloys under quasi-static shear loads. International Journal of Materials and Product Technology, 2014, 48, 179.	0.1	3
93	Smart in-wheel generator using adaptive DC-DC converter for rechargeable batteries in electric vehicles. International Journal of Precision Engineering and Manufacturing, 2014, 15, 1009-1013.	1.1	3
94	Electrically assisted bake hardening of complex phase ultra-high strength steels. International Journal of Precision Engineering and Manufacturing, 2016, 17, 225-231.	1.1	3
95	Feasibility of a Two-Stage Forming Process of 316L Austenitic Stainless Steels with Rapid Electrically Assisted Annealing. Metals, 2018, 8, 815.	1.0	3
96	Electropulsing Treatment on Enhancement of Electrical Conductivity of Screen-Printed Ag Wire. Metals and Materials International, 2021, 27, 1296-1304.	1.8	3
97	Microstructure and mechanical properties evaluation of friction stir welded boron steel. Journal of Mechanical Science and Technology, 2020, 34, 2011-2017.	0.7	2
98	Surface texturing by turning process using circular driven rotary tool with multiple cutting edges. International Journal of Precision Engineering and Manufacturing, 2014, 15, 1137-1142.	1.1	1
99	Evaluation of Efficiency of Electrically Assisted Rapid Annealing Compared to Rapid Induction Heat Treatment. International Journal of Precision Engineering and Manufacturing - Green Technology, 0, , 1.	2.7	1
100	A Comparison of Two Crush Test Methods for Honeycombs Under Compression and Shear. Journal of Testing and Evaluation, 2008, 36, 364-370.	0.4	1
101	Friction Stir Dissimilar Butt Welding of Mild Steel and Aluminum 5052-O Alloy. Journal of the Korean Society for Precision Engineering, 2019, 36, 675-680.	0.1	1
102	Lightweight Wheel Bearing with Dissimilar Materials for Vehicle. , 0, , .		1
103	Effectiveness of an additively manufactured porous layer in dissimilar solid-state bulk joining of additively manufactured maraging steel and conventional AISI410 steel. Additive Manufacturing, 2022, 49, 102508.	1.7	1
104	Numerical Investigation of the Galvanic Corrosion Behavior of a Joint between Steel and Aluminum Alloys Produced by Friction Stir Joining. Steel Research International, 2023, 94, .	1.0	1