

Ultrastrong steel via minimal lattice misfit and high-de

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Massive nanoprecipitation in an Fe-19Ni-xAl maraging steel triggered by the intrinsic heat treatment during laser metal deposition. <i>Acta Materialia</i> , 2017, 129, 52-60.	3.8	224
2	Precipitation strengthening of ductile Cr 15 Fe 20 Co 35 Ni 20 Mo 10 alloys. <i>Scripta Materialia</i> , 2017, 137, 88-93.	2.6	157
3	Nano-sized precipitation arising from partial substitution of Mo for Cr in FeCo-2V-0.5Cr alloy and its role in creep resistance. <i>Materials Characterization</i> , 2017, 130, 74-80.	1.9	1
4	Effect of Ta on microstructural evolution and mechanical properties of a solid-solution strengthening cast Ni-based alloy during long-term thermal exposure at 700Å°C. <i>Journal of Alloys and Compounds</i> , 2017, 729, 903-913.	2.8	39
5	High dislocation densityâ€“induced large ductility in deformed and partitioned steels. <i>Science</i> , 2017, 357, 1029-1032.	6.0	729
6	Evolution of crystal structure of Cu precipitates in a low carbon steel. <i>Materials and Design</i> , 2017, 135, 92-101.	3.3	77
7	Ultrahigh-strength steels strengthened by nanoparticles. <i>Science Bulletin</i> , 2017, 62, 1043-1044.	4.3	12
8	Making steel strong and cheap. <i>Nature Materials</i> , 2017, 16, 787-789.	13.3	51
9	Seeking comfort in the Iron Age. <i>Nature Materials</i> , 2017, 16, 789-789.	13.3	0
10	Microstructural evolution, nanoprecipitation behavior and mechanical properties of selective laser melted high-performance grade 300 maraging steel. <i>Materials and Design</i> , 2017, 134, 23-34.	3.3	351
11	Plastic deformation mechanisms in a severely deformed Fe-Ni-Al-C alloy with superior tensile properties. <i>Scientific Reports</i> , 2017, 7, 15619.	1.6	20
12	Microstructures and deformation mechanisms of Cr26Mn20Fe20Co20Ni14 alloys. <i>Materials Characterization</i> , 2017, 134, 194-201.	1.9	44
13	Interface optimization of CNT/Cu composite by forming TiC nanoprecipitation and low interface energy structure via spark plasma sintering. <i>Journal of Alloys and Compounds</i> , 2017, 722, 852-858.	2.8	52
14	Investigation of the Microstructure Evolution in a Fe-17Mn-1.5Al-0.3C Steel via In Situ Synchrotron X-ray Diffraction during a Tensile Test. <i>Materials</i> , 2017, 10, 1129.	1.3	32
15	A New Maraging Stainless Steel with Excellent Strengthâ€“Toughnessâ€“Corrosion Synergy. <i>Materials</i> , 2017, 10, 1293.	1.3	25
16	Fabrication and Mechanical Behavior of Ex Situ Mg-Based Bulk Metallic Glass Matrix Composite Reinforced with Electroless Cu-Coated SiC Particles. <i>Materials</i> , 2017, 10, 1371.	1.3	9
17	Insight into solid-solution strengthened bulk and stacking faults properties in Ti alloys: a comprehensive first-principles study. <i>Journal of Materials Science</i> , 2018, 53, 7493-7505.	1.7	17
18	The W alloying effect on thermal stability and hardening of nanostructured Cuâ€“W alloyed thin films. <i>Nanotechnology</i> , 2018, 29, 195705.	1.3	12

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20	Development of low-alloyed and rare-earth-free magnesium alloys having ultra-high strength. <i>Acta Materialia</i> , 2018, 149, 350-363.	3.8	287
21	Microstructure and Mechanical Properties of Al ₂₅ Cr ₂₅ Fe ₂₅ Ni ₂₅ (x = 19, 17, 15 at%) Multi-Component Alloys. <i>Advanced Engineering Materials</i> , 2018, 20, 1701057.		
22	Surface nanocrystallization of 17-4 precipitation-hardening stainless steel subjected to ultrasonic surface rolling process. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 726, 69-81.	2.6	105
23	Manipulating nanostructure to simultaneously improve the electrical conductivity and strength in microalloyed Al-Zr conductors. <i>Scientific Reports</i> , 2018, 8, 6202.	1.6	14
24	Heterogeneous nano/ultrafine-grained medium Mn austenitic stainless steel with high strength and ductility. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 725, 187-195.	2.6	37
25	Effect of magnesium on microstructure and properties of Cu-Cr alloy. <i>Journal of Alloys and Compounds</i> , 2018, 752, 191-197.	2.8	80
26	Strain partitioning behavior of in situ Ti ₅ Si ₃ /TiAl composites. <i>Journal of Alloys and Compounds</i> , 2018, 744, 182-186.	2.8	21
27	High-temperature strengthening mechanisms of Laves and B ₂ precipitates in a novel ferritic alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 720, 110-116.	2.6	14
28	Quantitative electron microscopy and physically based modelling of Cu precipitation in precipitation-hardening martensitic stainless steel 15-5 PH. <i>Materials and Design</i> , 2018, 143, 141-149.	3.3	50
29	Novel high-entropy and medium-entropy stainless steels with enhanced mechanical and anti-corrosion properties. <i>Materials Science and Technology</i> , 2018, 34, 572-579.	0.8	9
30	Development of high-strength Co-free high-entropy alloys hardened by nanosized precipitates. <i>Scripta Materialia</i> , 2018, 148, 51-55.	2.6	154
31	Controlled formation of coherent cuboidal nanoprecipitates in body-centered cubic high-entropy alloys based on Al ₂ (Ni,Co,Fe,Cr) ₁₄ compositions. <i>Acta Materialia</i> , 2018, 147, 213-225.	3.8	252
32	Preparing bulk ultrafine-microstructure high-entropy alloys via direct solidification. <i>Nanoscale</i> , 2018, 10, 1912-1919.	2.8	51
33	Effects of cold rolling on the microstructure and properties of Fe-Cr-Ni-Mo-Ti maraging steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 712, 663-670.	2.6	24
34	Effects of Cobalt on the structure and mechanical behavior of non-equal molar Co _x Fe _{50-x} Cr ₂₅ Ni ₂₅ high entropy alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 723, 221-228.	2.6	37
35	Ag-Segregation to Dislocations in PbTe-Based Thermoelectric Materials. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 3609-3615.	4.0	74
36	Phase stability and transformation in a light-weight high-entropy alloy. <i>Acta Materialia</i> , 2018, 146, 280-293.	3.8	131
37	Characterization of cold-rolled heterogeneous microstructure formed by multimodal deformation in an Fe-Ni-Al-C alloy with lattice softening. <i>Materials and Design</i> , 2018, 153, 166-176.	3.3	6

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38	Revealing extraordinary strength and toughness of multilayer TWIP/Maraging steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 727, 70-77.	2.6	32
39	Dual Phase Synergy Enabled Large Elastic Strains of Nanoinclusions in a Dislocation Slip Matrix Composite. <i>Nano Letters</i> , 2018, 18, 2976-2983.	4.5	12
40	Precipitation hardening effects on extension twinning in magnesium alloys. <i>International Journal of Plasticity</i> , 2018, 106, 186-202.	4.1	89
41	Nature-Inspired Hierarchical Steels. <i>Scientific Reports</i> , 2018, 8, 5088.	1.6	47
42	Strain rate-induced plasticity in bcc $\hat{1}^2$ -Ti alloy single crystal micropillars containing brittle $\hat{1}\%$ -precipitates. <i>Materials and Design</i> , 2018, 137, 404-413.	3.3	18
43	Additively manufactured hierarchical stainless steels with high strength and ductility. <i>Nature Materials</i> , 2018, 17, 63-71.	13.3	1,517
44	Realizing strength-ductility combination of coarse-grained Al _{0.2} Co _{1.5} CrFeNi _{1.5} Ti _{0.3} alloy via nano-sized, coherent precipitates. <i>International Journal of Plasticity</i> , 2018, 100, 177-191.	4.1	193
45	Precipitation and growth behavior of mushroom-like Ni ₃ Al. <i>Materials Letters</i> , 2018, 211, 5-8.	1.3	18
46	Atomic and electronic basis for solutes strengthened (010) anti-phase boundary of L12 Co ₃ (Al, TM): A comprehensive first-principles study. <i>Acta Materialia</i> , 2018, 145, 30-40.	3.8	40
47	Self-assembled metal nano-multilayered film prepared by co-sputtering method. <i>Applied Surface Science</i> , 2018, 435, 16-22.	3.1	18
48	Atom probe tomography study of Fe-Ni-Al-Cr-Ti ferritic steels with hierarchically-structured precipitates. <i>Acta Materialia</i> , 2018, 144, 707-715.	3.8	26
49	Microstructure characterization of Cu-rich B2 intermetallic nanoprecipitates in an austenite-based High specific strength steel. <i>IOP Conference Series: Materials Science and Engineering</i> , 0, 418, 012009.	0.3	2
50	Computing the 3D Radial Distribution Function from Particle Positions: An Advanced Analytic Approach. <i>Analytical Chemistry</i> , 2018, 90, 13909-13914.	3.2	23
51	Coherent Precipitation and Strengthening in Compositionally Complex Alloys: A Review. <i>Entropy</i> , 2018, 20, 878.	1.1	100
52	Multicomponent intermetallic nanoparticles and superb mechanical behaviors of complex alloys. <i>Science</i> , 2018, 362, 933-937.	6.0	950
53	Ultrastrong nanocrystalline steel with exceptional thermal stability and radiation tolerance. <i>Nature Communications</i> , 2018, 9, 5389.	5.8	88
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55	In-Situ Nanoparticles: A New Strengthening Method for Metallic Structural Material. <i>Applied Sciences (Switzerland)</i> , 2018, 8, 2479.	1.3	9

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56	An anomalous thermal expansion phenomenon induced by phase transition of Fe-Co-Ni alloys. <i>Journal of Applied Physics</i> , 2018, 124, 215107.	1.1	7
57	Generation of high-performance Ni-Cr-Mo-based superalloys via $\hat{\Gamma}^3$ to DO22 superlattice ordered phase transformation upon addition of trace alloying elements. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 738, 38-43.	2.6	10
58	Interface dominated cooperative nanoprecipitation in interstitial alloys. <i>Nature Communications</i> , 2018, 9, 4017.	5.8	12
59	High-content ductile coherent nanoprecipitates achieve ultrastrong high-entropy alloys. <i>Nature Communications</i> , 2018, 9, 4063.	5.8	399
60	Structure and properties of GCr15 modified by multiphase ceramic nanoparticles /Fe-C composite inoculants. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 738, 63-74.	2.6	19
61	Effect of Zr Addition on the Microstructure and Mechanical Properties of CoCrFeNiMn High-Entropy Alloy Synthesized by Spark Plasma Sintering. <i>Entropy</i> , 2018, 20, 810.	1.1	19
62	Ultrastrong Translucent Glass Ceramic with Nanocrystalline, Biomimetic Structure. <i>Nano Letters</i> , 2018, 18, 7146-7154.	4.5	29
63	Thermodynamic Analysis of Ti3O5 Nanoparticles Formed in Melt and Their Effects on Ferritic Steel Microstructure. <i>Materials</i> , 2018, 11, 1343.	1.3	4
64	Numerical Benchmark of Phase-Field Simulations with Elastic Strains: Precipitation in the Presence of Chemo-Mechanical Coupling. <i>Computational Materials Science</i> , 2018, 155, 541-553.	1.4	15
65	Ductilizing brittle high-entropy alloys via tailoring valence electron concentrations of precipitates by controlled elemental partitioning. <i>Materials Research Letters</i> , 2018, 6, 600-606.	4.1	41
66	Deformation-induced nontetragonality of martensite in carbon steels. <i>Materials Letters</i> , 2018, 227, 213-216.	1.3	6
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68	Effects of Surface-Modified MgO Nanoparticles on Inclusion Characteristics and Microstructure in Carbon Structural Steel. <i>Jom</i> , 2018, 70, 1136-1142.	0.9	8
69	Tunability of martensitic behavior through coherent nanoprecipitates and other nanostructures. <i>Acta Materialia</i> , 2018, 154, 295-302.	3.8	6
70	Simultaneous enhancement of strength and plasticity by nano B2 clusters and nano- $\hat{\Gamma}^3$ phase in a low carbon low alloy steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 730, 119-136.	2.6	23
71	Optimization of deformation properties in as-cast copper by microstructural engineering. Part I. microstructure. <i>Journal of Alloys and Compounds</i> , 2018, 763, 592-605.	2.8	21
72	Precipitation stability and micro-property of (Nb, Ti)C carbides in MMC coating. <i>Journal of Alloys and Compounds</i> , 2018, 763, 670-678.	2.8	42
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75	Study on the mechanical behavior of twinning-induced plasticity steel processed by warm forging and annealing. <i>Journal of Materials Science</i> , 2018, 53, 14645-14656.	1.7	4
76	L1₂-strengthened high-entropy alloys for advanced structural applications. <i>Journal of Materials Research</i> , 2018, 33, 2983-2997.	1.2	86
77	Mechanical Behavior of Twinning Induced Plasticity Steel Processed by Warm Forging and Annealing. <i>Defect and Diffusion Forum</i> , 0, 385, 21-26.	0.4	0
78	Departing from the mutual exclusiveness of strength and ductility in nanocrystalline metals with vacancy induced plasticity. <i>Scripta Materialia</i> , 2018, 157, 39-43.	2.6	6
79	Graphene quality dominated interface deformation behavior of graphene-metal composite: The defective is better. <i>International Journal of Plasticity</i> , 2018, 111, 253-265.	4.1	50
80	A low-alloy high-carbon martensite steel with 2.6â€”GPa tensile strength and good ductility. <i>Acta Materialia</i> , 2018, 158, 247-256.	3.8	124
81	Increasing the creep resistance of Fe-Ni-Al-Cr superalloys via Ti additions by optimizing the B2/L21 ratio in composite nano-precipitates. <i>Acta Materialia</i> , 2018, 157, 142-154.	3.8	51
82	Strain Rate Effect on Tensile Behavior for a High Specific Strength Steel: From Quasi-Static to Intermediate Strain Rates. <i>Metals</i> , 2018, 8, 11.	1.0	40
83	A Review on Nano-Scale Precipitation in Steels. <i>Technologies</i> , 2018, 6, 36.	3.0	48
84	Stress-induced elastic modulus evolution in metallic glasses. <i>Materials Research Express</i> , 2018, 5, 076505.	0.8	1
85	An atomic mechanism for the formation of nanotwins in high carbon martensite. <i>Journal of Alloys and Compounds</i> , 2018, 767, 68-72.	2.8	18
86	Sequentially bridged graphene sheets with high strength, toughness, and electrical conductivity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 5359-5364.	3.3	114
87	Interface modification of tempered martensite utilizing nano-scale transition carbide via isothermal sub-zero treatment. <i>Materials Letters</i> , 2018, 231, 175-178.	1.3	4
88	Continuous and reversible atomic rearrangement in a multifunctional titanium alloy. <i>Materialia</i> , 2018, 2, 1-8.	1.3	20
89	Effect of secondary phase particles on the tensile behavior of Mg-Zn-Ca alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 735, 288-294.	2.6	32
90	Structural evolutions of metallic materials processed by severe plastic deformation. <i>Materials Science and Engineering Reports</i> , 2018, 133, 1-59.	14.8	401
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97	Hall-Petch Relationship in Electrically Pulsed Zn-Mg Alloys. Advanced Engineering Materials, 2019, 21, 1900638.	1.6	9
98	Effect of deformation on precipitation hardening behavior of a maraging steel in the aging process. Materials Characterization, 2019, 155, 109827.	1.9	18
99	Coherent precipitation and strengthening in a dual-phase AlNi ₂ Co ₂ Fe _{1.5} Cr _{1.5} high-entropy alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 764, 138241.	2.6	48
100	Characterization of nano-sized precipitation and dislocations and the correlation with mechanical properties of a low alloy TRIP-aided steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 763, 138149.	2.6	15
101	Effect of surface-modified MgO nanoparticles on intragranular ferrite nucleated on inclusions in low-alloy steel. Materials and Design, 2019, 182, 108004.	3.3	10
102	A new magnesium sheet alloy and its multi-stage homogenization for simultaneously improved ductility and strength at room temperature. Scripta Materialia, 2019, 171, 92-97.	2.6	49
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104	Current-driving dissolution of nanoscale brittle precipitates produced by spinodal decomposition in FeCrAl alloys. Journal of Alloys and Compounds, 2019, 805, 26-32.	2.8	32
105	Co-precipitation kinetics, microstructural evolution and interfacial segregation in multicomponent nano-precipitated steels. Materials Characterization, 2019, 155, 109786.	1.9	26
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107	Thermodynamics Analysis of Multiple Microelements™ Coupling Behavior in High Fatigue Resistance 50CrVA Spring Steel with Nanoparticles. Materials, 2019, 12, 2952.	1.3	5
108	Delamination toughening in a low carbon microalloyed steel plate rolled in the dual-phase region. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 766, 138342.	2.6	17
109	ODS alloy with ferritic-austenitic duplex matrix and NiAl precipitation prepared by master alloy approach. Journal of Alloys and Compounds, 2019, 811, 152066.	2.8	1

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111	Decreasing yield ratio of 70â€GPaÂ-% grade hot-rolled medium Mn steel by weakening multi-strengthening effects. <i>Vacuum</i> , 2019, 170, 108972.	1.6	6
112	Strategies for improving the sustainability of structural metals. <i>Nature</i> , 2019, 575, 64-74.	13.7	301
113	Effect of selective-precipitations process on the corrosion resistance and hardness of dual-phase high-carbon steel. <i>Scientific Reports</i> , 2019, 9, 15631.	1.6	6
114	Investigation of Temperature and Feature Size Effects on Deformation of Metals by Superplastic Nanomolding. <i>Physical Review Letters</i> , 2019, 122, 016101.	2.9	13
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118	Cyclic oxidation behavior of Ni3Al-based superalloy. <i>Vacuum</i> , 2019, 169, 108938.	1.6	17
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121	Phase-specific Precipitation of Intermetallic Phases in Fe Al Mn Ni C Duplex Steels. <i>Steel Research International</i> , 2019, 90, 1800440.	1.0	7
122	Phase Equilibria in the Fe-Mo-Nb System at 1100Â°C and 1200Â°C. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2019, 50, 377-387.	1.1	2
123	New orientation relationship with low interfacial energy in MC/ferrite system observed in Nb-Ti bearing steel during isothermal quenching process. <i>Scripta Materialia</i> , 2019, 163, 101-106.	2.6	21
124	Microstructure characterization and strengthening behavior of dual precipitation particles in Cu Ti microalloyed dual-phase steels. <i>Materials and Design</i> , 2019, 166, 107613.	3.3	13
125	An Overview of CALPHAD XLVII (Juriquilla, QuerÃ©taro, MÃ©xico). <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2019, 67, 101618.	0.7	1
126	Microscopic strain partitioning in LÃ¼ders band of an ultrafine-grained medium Mn steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 761, 138050.	2.6	35
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129	A Review on High-Strength Titanium Alloys: Microstructure, Strengthening, and Properties. <i>Advanced Engineering Materials</i> , 2019, 21, 1801359.	1.6	144
130	Magnetomechanical coupling enhancement via high-density nanoprecipitation in Co70Fe30 alloy. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2019, 383, 2658-2661.	0.9	2
131	Simultaneous enhancement of strength and ductility via nanoscale Cu precipitates and ultrafine filmy retained austenite in a novel quench-partitioned and tempered steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 760, 47-57.	2.6	24
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133	Microstructure evolution of in-situ nanoparticles and its comprehensive effect on high strength steel. <i>Journal of Materials Science and Technology</i> , 2019, 35, 1940-1950.	5.6	40
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139	The microstructure and mechanical properties of novel Al-Cr-Fe-Mn-Ni high-entropy alloys with trimodal distributions of coherent B2 precipitates. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 757, 160-171.	2.6	71
140	Strong and ductile steel via high dislocation density and heterogeneous nano/ultrafine grains. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 759, 1-10.	2.6	46
141	Super strength of 65Mn spring steel obtained by appropriate quenching and tempering in an ultrafine grain condition. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 754, 1-8.	2.6	22
142	The quantitative relationship between fracture toughness and impact toughness in high-strength steels. <i>Engineering Fracture Mechanics</i> , 2019, 211, 362-370.	2.0	39
143	Micro-properties of (Nb,M)C carbide (M= V, Mo, W and Cr) and precipitation behavior of (Nb,V)C in carbide reinforced coating. <i>Journal of Alloys and Compounds</i> , 2019, 788, 852-860.	2.8	19
144	Tailoring the strength and ductility of T91 steel by partial tempering treatment. <i>Acta Materialia</i> , 2019, 169, 209-224.	3.8	59
145	Local lattice distortion mediated formation of stacking faults in Mg alloys. <i>Acta Materialia</i> , 2019, 170, 231-239.	3.8	45

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147	Damage Evolution and Ductile Fracture. , 2019, , 85-136.		4
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