

C Suryanarayana

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116
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L-index

#	Paper	IF	Citations
116	Mechanical alloying and milling. <i>Progress in Materials Science</i> , 2001 , 46, 1-184	42.2	6146
115	Nanocrystalline materials. <i>International Materials Reviews</i> , 1995 , 40, 41-64	16.1	737
114	Mechanically alloyed nanocomposites. <i>Progress in Materials Science</i> , 2013 , 58, 383-502	42.2	519
113	The science and technology of mechanical alloying. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001 , 304-306, 151-158	5.3	438
112	Iron-based bulk metallic glasses. <i>International Materials Reviews</i> , 2013 , 58, 131-166	16.1	372
111	Synthesis, properties and applications of titanium aluminides. <i>Journal of Materials Science</i> , 1992 , 27, 5113-5140	4.3	344
110	Nanocrystalline materials [Current research and future directions. <i>Hyperfine Interactions</i> , 2000 , 130, 5-44	0.8	278
109	Synthesis and characterization of high volume fraction Al ₂ O ₃ nanocomposite powders by high-energy milling. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006 , 425, 192-200	5.3	217
108	Effect of clustering on the mechanical properties of SiC particulate-reinforced aluminum alloy 2024 metal matrix composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2003 , 347, 198-204	5.3	170
107	Structure and properties of nanocrystalline materials. <i>Bulletin of Materials Science</i> , 1994 , 17, 307-346	1.7	169
106	Review: A decade of quenching from the melt. <i>Journal of Materials Science</i> , 1971 , 6, 1111-1135	4.3	158
105	Nanocrystalline materials		158
104	Grain size effects in nanocrystalline materials. <i>Journal of Materials Research</i> , 1992 , 7, 2114-2118	2.5	130
103	Rapid quenching from the melt: An annotated bibliography 1958-2002. <i>Journal of Materials Science</i> , 1973 , 8, 705-753	4.3	118
102	Nanocrystalline titanium-magnesium alloys through mechanical alloying. <i>Journal of Materials Research</i> , 1990 , 5, 1880-1886	2.5	116
101	The structure and mechanical properties of metallic nanocrystals. <i>Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science</i> , 1992 , 23, 1071-1081		107
100	Synthesis of nanocomposites by mechanical alloying. <i>Journal of Alloys and Compounds</i> , 2011 , 509, S229-S234	5.7	100

99	Bulk Metallic Glasses		96
98	A critical analysis of the glass-forming ability of alloys. <i>Journal of Non-Crystalline Solids</i> , 2009 , 355, 355-360		89
97	Structural evolution in mechanically alloyed Al-Fe powders. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1995 , 26, 1939-1946	2.3	89
96	Fabrication of nano-grained TiNbZr biomaterials using spark plasma sintering. <i>Materials and Design</i> , 2015 , 87, 693-700	8.1	86
95	Structural evolution of mechanically alloyed TiAl alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1992 , 158, 93-101	5.3	66
94	Phase Transformation in Nanometer-Sized γ -Alumina by Mechanical Milling. <i>Journal of the American Ceramic Society</i> , 2005 , 88, 780-783	3.8	65
93	Materials and Process Design through Mechanochemical Routes. <i>Journal of Materials Synthesis and Processing</i> , 2000 , 8, 235-244		62
92	Recent Developments in Nanostructured Materials. <i>Advanced Engineering Materials</i> , 2005 , 7, 983-992	3.5	61
91	Microstructure and mechanical properties of AlZr nanocomposite materials. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009 , 518, 100-107	5.3	56
90	Mechanical alloying of nb-al powders. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1996 , 27, 41-48	2.3	55
89	The structure and properties of nanocrystalline materials: Issues and concerns. <i>Jom</i> , 2002 , 54, 24-27	2.1	54
88	Does a disordered β -TiAl phase exist in mechanically alloyed TiAl powders?. <i>Intermetallics</i> , 1995 , 3, 153-160	0.5	53
87	Synthesis of Mg ₂ X (X = Si, Ge, or Sn) intermetallics by mechanical alloying. <i>Materials Letters</i> , 1997 , 33, 71-75	3.3	52
86	Homogeneous dispersion of graphite in a 6061 aluminum alloy by ball milling. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2003 , 348, 163-169	5.3	52
85	Rapid solidification processing of titanium alloys. <i>International Materials Reviews</i> , 1991 , 36, 85-123	16.1	50
84	Synthesis of nanocomposites and amorphous alloys by mechanical alloying. <i>Journal of Materials Science</i> , 2011 , 46, 6301-6315	4.3	49
83	Extended homogeneity range of intermetallic phases in mechanically alloyed MgAl alloys. <i>Intermetallics</i> , 2003 , 11, 373-376	3.5	48
82	Effect of premilling elemental powders on solid solubility extension of magnesium in titanium by mechanical alloying. <i>Materials Letters</i> , 1995 , 23, 27-31	3.3	46

81	Criterion for predicting the glass-forming ability of alloys. <i>Applied Physics Letters</i> , 2007 , 90, 111915	3.4	45
80	Milling maps for phase identification during mechanical alloying. <i>Scripta Metallurgica Et Materialia</i> , 1992 , 26, 1727-1732		45
79	Effect of Nb on the glass-forming ability of mechanically alloyed FeNiZrB alloys. <i>Scripta Materialia</i> , 2008 , 58, 508-511	5.6	44
78	Nanocrystalline metals for structural applications. <i>Jom</i> , 1989 , 41, 12-17	2.1	42
77	An unusual phase transformation during mechanical alloying of an Fe-based bulk metallic glass composition. <i>Journal of Alloys and Compounds</i> , 2005 , 389, 121-126	5.7	41
76	Structure of mechanically alloyed Ti-Al-Nb powders. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1995 , 26, 1379-1387	2.3	41
75	Recent advances in the synthesis of alloy phases by mechanical alloying/milling. <i>Metals and Materials International</i> , 1996 , 2, 195-209		38
74	Structure and properties of ultrafine-grained MoSi ₂ +Si ₃ N ₄ composites synthesized by mechanical alloying. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008 , 479, 23-30	5.3	37
73	Rapidly Quenched Metals 1980 ,		37
72	Numerical Investigation of Mechanical Behaviour of Nanocrystalline Copper. <i>Powder Metallurgy</i> , 1998 , 41, 217-220	1.9	36
71	Synthesis of a nanocrystalline W ₅ wt.% Re alloy by mechanical alloying. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1998 , 251, 255-261	5.3	35
70	Development of new Al-based nanocomposites by mechanical alloying. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008 , 480, 392-396	5.3	35
69	Mechanical crystallization of Fe-based amorphous alloys. <i>Journal of Applied Physics</i> , 2007 , 102, 083544	2.5	34
68	A novel high-strength Al-based nanocomposite reinforced with Ti-based metallic glass nanoparticles produced by powder metallurgy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018 , 734, 34-41	5.3	33
67	Extended solid solutions in Cd/Zn powders by mechanical alloying. <i>Scripta Metallurgica Et Materialia</i> , 1994 , 30, 133-137		33
66	Effect of sintering parameters on microstructure, mechanical properties and electrochemical behavior of NbZr alloy for biomedical applications. <i>Materials and Design</i> , 2015 , 83, 344-351	8.1	30
65	Synthesis of Mg/Al ₂ O ₃ nanocomposites by mechanical alloying. <i>Journal of Alloys and Compounds</i> , 2013 , 563, 165-170	5.7	30
64	Transformation studies and mechanical properties of melt-quenched amorphous titanium-silicon alloys. <i>Journal of Materials Science</i> , 1980 , 15, 1993-2000	4.3	30

63	Metastable phases in mechanically alloyed Al ₂ Mn powder mixtures. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1991 , 131, 237-242	5.3	29
62	Combustion Characteristics of Mechanically Alloyed Ultrafine-Grained Al-Mg Powders. <i>Advanced Engineering Materials</i> , 2006 , 8, 563-567	3.5	28
61	Structure and properties of rapidly solidified Mg-Al alloys. <i>Journal of Materials Science</i> , 1999 , 34, 4311-4320	4.9	28
60	Synthesis of bulk nanocrystalline samarium hexaboride. <i>Journal of the European Ceramic Society</i> , 2015 , 35, 4121-4136	6	27
59	Microstructure and wear characteristics of rapidly solidified Al ₁₀ Pb ₁₀ Cu alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2000 , 287, 59-65	5.3	26
58	Phase selection in a mechanically alloyed Cu ₂₀ 13;In ₁₀ aBe powder mixture. <i>Journal of Materials Research</i> , 1999 , 14, 377-383	2.5	26
57	Mechanically induced fcc phase formation in nanocrystalline hafnium. <i>Journal of Applied Physics</i> , 2009 , 105, 063524	2.5	25
56	Synthesis, characterisation and mechanical properties of SiC reinforced Al based nanocomposites processed by MA and SPS. <i>Powder Metallurgy</i> , 2013 , 56, 149-157	1.9	22
55	Phase evolution during high energy ball milling of immiscible Nb ₅₀ Zr alloys. <i>Advanced Powder Technology</i> , 2015 , 26, 385-391	4.6	21
54	Low-temperature superplasticity in ultrafine-grained Ti ₅ Si ₃ TiAl composites. <i>Scripta Materialia</i> , 2008 , 59, 455-458	5.6	21
53	Synthesis of metastable NiGe ₂ by mechanical alloying. <i>Materials and Design</i> , 2015 , 87, 520-526	8.1	20
52	X-ray powder profile analyses on nanostructured niobium metal powders. <i>Scripta Materialia</i> , 1995 , 5, 53-61		20
51	Synthesis of nanocrystalline Al ₅ Fe ₂ by mechanical alloying. <i>Scripta Metallurgica Et Materialia</i> , 1994 , 31, 333-338		20
50	Effect of carbon addition on the glass-forming ability of mechanically alloyed Fe-based alloys. <i>Journal of Applied Physics</i> , 2008 , 103, 013504	2.5	18
49	TiAl formation by mechanical alloying. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1992 , 150, 117-121	5.3	18
48	Formation of an amorphous phase and its crystallization in the immiscible Nb ₅₀ Zr system by mechanical alloying. <i>Journal of Applied Physics</i> , 2013 , 114, 153512	2.5	17
47	A comparison of the sintering characteristics of ball-milled and attritor-milled W ₅₀ Ni ₅₀ Be heavy alloy. <i>Journal of Materials Research</i> , 1996 , 11, 1673-1682	2.5	17
46	Production of nanostructure titanium-based alloys by mechanical alloying. <i>Scripta Materialia</i> , 1992 , 1, 191-196		16

45	Synthesis and processing of a Cu-In-Ga-Se sputtering target. <i>Thin Solid Films</i> , 1998 , 332, 340-344	2.2	15
44	Mechanism of low-temperature β -CuGa ₂ phase formation in Cu-Ga alloys by mechanical alloying. <i>Journal of Applied Physics</i> , 2004 , 96, 6120-6126	2.5	15
43	Synthesis and thermal stability of homogeneous nanostructured Fe ₃ C (cementite). <i>Journal of Materials Science</i> , 2018 , 53, 7877-7890	4.3	14
42	Size-dependent structure and properties of rapidly solidified aluminum alloy powders. <i>Scripta Materialia</i> , 2001 , 45, 1341-1347	5.6	14
41	Synthesis of ordered Al ₃ Nb intermetallic by mechanical alloying. <i>Scripta Metallurgica Et Materialia</i> , 1994 , 30, 781-785		14
40	Synthesis and stability of the austenite phase in mechanically alloyed Fe-Cr-Ni alloys. <i>Materials Letters</i> , 2017 , 187, 140-143	3.3	13
39	Synthesis of austenitic stainless steel powder alloys by mechanical alloying. <i>Journal of Materials Science</i> , 2017 , 52, 11919-11932	4.3	13
38	Mechanochemical synthesis of nanocrystalline metal powders 2013 , 42-68		13
37	Thermal stability of nanostructured titanium aluminides. <i>Scripta Materialia</i> , 1993 , 2, 527-535		13
36	Synthesis of metastable L1 ₂ cubic phases in (Al,M) ₃ Zr (M = Fe,Ni) powders by mechanical alloying. <i>Scripta Metallurgica Et Materialia</i> , 1994 , 31, 1465-1470		13
35	Synthesis of B2 phase in Ti-Al-Nb alloys by mechanical alloying. <i>Scripta Metallurgica Et Materialia</i> , 1991 , 25, 2537-2540		13
34	Phase formation under non-equilibrium processing conditions: rapid solidification processing and mechanical alloying. <i>Journal of Materials Science</i> , 2018 , 53, 13364-13379	4.3	12
33	Synthesis of stable and metastable phases in the Ni-Si system by mechanical alloying. <i>Powder Technology</i> , 2016 , 302, 8-14	5.2	12
32	Grain size softening effect in Al _{62.5} Cu ₂₅ Fe _{12.5} nanoquasicrystals. <i>Applied Physics Letters</i> , 2013 , 103, 201914	3.4	11
31	Synthesis of metastable phases in Al-Nb powders by mechanical alloying. <i>Scripta Metallurgica Et Materialia</i> , 1992 , 27, 475-480		11
30	Pressure-assisted sintering of Al ₆₀ Ni ₄₀ amorphous alloy powders. <i>Materialia</i> , 2018 , 2, 157-166	3.2	10
29	Isothermal nanocrystallisation behaviour of melt spun Al ₈₆ Ni ₉ Mn ₅ (Mmmischmetal) amorphous alloy. <i>Materials Science and Technology</i> , 2003 , 19, 966-972	1.5	10
28	GLASS FORMATION IN MECHANICALLY ALLOYED Fe-BASED SYSTEMS. <i>Functional Materials Letters</i> , 2009 , 02, 147-155	1.2	9

27	Lattice contraction during amorphization by mechanical alloying. <i>Journal of Applied Physics</i> , 2008 , 104, 103503	2.5	9
26	Synthesis of Nanostructured Materials by Inert-Gas Condensation Methods 2007 , 47-90		9
25	Chapter 4 Mechanical alloying. <i>Pergamon Materials Series</i> , 1999 , 49-85		9
24	Magnesium nanocomposites reinforced with a high volume fraction of SiC particulates. <i>International Journal of Materials Research</i> , 2017 , 108, 848-856	0.5	8
23	Mechanical characterization of mechanically alloyed ultrafine-grained Ti ₅ Si ₃ +40vol% TiAl composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013 , 579, 18-25	5.3	8
22	Amorphous to Crystalline Phase Transformations. <i>Materials Science Forum</i> , 1985 , 3, 173-185	0.4	7
21	Effect of initial composition on phase selection in Ni ₃ Si powder blends processed by mechanical alloying. <i>Materials and Manufacturing Processes</i> , 2018 , 33, 840-848	4.1	7
20	Consolidation of nanocrystalline powders. <i>Metals and Materials International</i> , 1999 , 5, 121-128		6
19	Abnormal hot deformation behavior in a metallic-glass-reinforced Al-7075 composite. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020 , 785, 139212	5.3	5
18	Reversible transformation of NiGe in mechanically alloyed Ni ₃ Ge powders. <i>Journal of Materials Research</i> , 2015 , 30, 2124-2132	2.5	5
17	Microstructural Evolution during Mechanical Milling of Rapidly Solidified Al ₄₀ Ni ₄₀ Mn ₁ Alloy Powders. <i>Journal of Materials Synthesis and Processing</i> , 2001 , 9, 39-47		5
16	Nanostructured Materials and Nanocomposites by Mechanical Alloying: An Overview. <i>Metals and Materials International</i> , 1	2.4	4
15	Mechanical alloying: a critical review. <i>Materials Research Letters</i> , 2022 , 10, 619-647	7.4	4
14	Synthesis and characterization of vanadium boride powders and their sintered bodies. <i>Materials Research Express</i> , 2019 , 6, 096542	1.7	3
13	Development of a diffusion barrier layer for silicon and carbon in molybdenum physical vapor deposition approach. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1999 , 30, 799-806	2.3	3
12	Phase Formation during Ball Milling of Ti-Al-B Powders. <i>Materials Science Forum</i> , 1996 , 225-227, 471-476	0.4	3
11	Alloyed Steels: Mechanically 2016 , 159-177		2
10	Inverse Hall-Petch Like Mechanical Behaviour in Nanophase Al-Cu-Fe Quasicrystals: A New Phenomenon. <i>Acta Physica Polonica A</i> , 2014 , 126, 543-548	0.6	2

9	Mechanical Alloying for Advanced Materials 2014 , 169-178		1
8	Investigation of the magnetic properties and fracture behavior of NdFeB alloy powders during high-energy ball milling. <i>Materials Research Express</i> , 2020 , 7, 096101	1.7	1
7	Rapid Solidification Processing 2002 , 1-10		0
6	Mechanical milling of gas-atomized AlNiMm (Mm=misch metal) alloy powders. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2001 , 32, 821-829	2.3	0
5	Fabrication of ultrafine powder using processing control agent, and investigation of its effect on microstructure and thermoelectric properties of p-type (Bi, Sb) ₂ Te ₃ alloys. <i>Advanced Powder Technology</i> , 2022 , 33, 103386	4.6	0
4	Mechanical milling of gas-atomized Al-Ni-Mm (Mm = misch metal) alloy powders. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2001 , 32, 821-829	2.3	
3	Grain Boundaries in Metallic Materials 1992 , 229-237		
2	Mechanical Alloying and Severe Plastic Deformation 2007 , 13-1-13-28		
1	Synthesis of Nano-Size Hydroxyapatite (HAp) Powders by Mechanical Alloying. <i>Ceramic Engineering and Science Proceedings</i> , 33-39		0.1