

# E Mohandas

## List of Publications by Year in descending order

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#	ARTICLE	IF	CITATIONS
1	Development and characterization of advanced 9Cr ferritic/martensitic steels for fission and fusion reactors. <i>Journal of Nuclear Materials</i> , 2011, 409, 131-139.	2.7	78
2	Influence of nitrogen flow rate on microstructural and nanomechanical properties of ZrN thin films prepared by pulsed DC magnetron sputtering. <i>Applied Surface Science</i> , 2013, 280, 117-123.	6.1	62
3	Pulsed laser deposition of anatase and rutile TiO <sub>2</sub> thin films. <i>Surface and Coatings Technology</i> , 2007, 201, 7713-7719.	4.8	59
4	A study of microstructural and optical properties of nanocrystalline ceria thin films prepared by pulsed laser deposition. <i>Thin Solid Films</i> , 2011, 519, 2520-2526.	1.8	59
5	X-ray diffraction, Raman and photoluminescence studies of nanocrystalline cerium oxide thin films. <i>Ceramics International</i> , 2013, 39, 8327-8333.	4.8	59
6	Site occupation of Nb, V, Mn and Cr in $\beta$ -TiAl. <i>Scripta Metallurgica Et Materialia</i> , 1991, 25, 2023-2027.	1.0	58
7	Characterisation of thermal stability and phase transformation energetics in tempered 9Cr-1Mo steel using drop and differential scanning calorimetry. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2007, 465, 29-37.	5.6	54
8	Differential scanning calorimetry study of diffusional and martensitic phase transformations in some 9 wt-%Cr low carbon ferritic steels. <i>Materials Science and Technology</i> , 2011, 27, 500-512.	1.6	54
9	Nanostructured CrN thin films prepared by reactive pulsed DC magnetron sputtering. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2010, 167, 17-25.	3.5	53
10	Measurement of transformation temperatures and specific heat capacity of tungsten added reduced activation ferritic-martensitic steel. <i>Journal of Nuclear Materials</i> , 2009, 389, 385-393.	2.7	50
11	Eu <sup>3+</sup> doped gadolinium oxysulfide (Gd <sub>2</sub> O <sub>2</sub> S) nanostructures—synthesis and optical and electronic properties. <i>Nanotechnology</i> , 2008, 19, 395703.	2.6	49
12	Structural and optical properties of $\beta$ -alumina thin films prepared by pulsed laser deposition. <i>Thin Solid Films</i> , 2010, 518, 3898-3902.	1.8	45
13	Effect of substrate temperature on microstructure and optical properties of nanocrystalline alumina thin films. <i>Ceramics International</i> , 2013, 39, 9017-9023.	4.8	44
14	Thermal expansion studies on Inconel-600 <sup>®</sup> by high temperature X-ray diffraction. <i>Journal of Nuclear Materials</i> , 2004, 325, 18-25.	2.7	38
15	Oxidation and Hot Corrosion Behavior of Nickel-Based Superalloy for Gas Turbine Applications. <i>Materials and Manufacturing Processes</i> , 2014, 29, 832-839.	4.7	36
16	The pressure derivative of bulk modulus of transition metals: An estimation using the method of model potentials and a study of the systematics. <i>Journal of Physics and Chemistry of Solids</i> , 1997, 58, 1367-1373.	4.0	35
17	Synthesis and characterization of SnS nanosheets through simple chemical route. <i>Materials Letters</i> , 2011, 65, 1148-1150.	2.6	35
18	Study of microstructure and nanomechanical properties of Zr films prepared by pulsed magnetron sputtering. <i>Applied Surface Science</i> , 2011, 257, 9909-9914.	6.1	33

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19	Synthesis and high temperature XRD studies of tantalum nitride thin films prepared by reactive pulsed dc magnetron sputtering. <i>Journal of Alloys and Compounds</i> , 2011, 509, 6400-6407.	5.5	33
20	Effect of heating and cooling rate on the kinetics of allotropic phase changes in uranium: A differential scanning calorimetry study. <i>Journal of Nuclear Materials</i> , 2009, 383, 215-225.	2.7	32
21	X-ray diffraction Rietveld analysis of cold worked austenitic stainless steel. <i>Materials Letters</i> , 2012, 67, 173-176.	2.6	32
22	A study of ternary element site substitution in Ni3Al using pseudopotential orbital radii based structure maps. <i>Scripta Materialia</i> , 1996, 34, 1785-1790.	5.2	30
23	Effect of substrate temperature and oxygen partial pressure on microstructure and optical properties of pulsed laser deposited yttrium oxide thin films. <i>Applied Surface Science</i> , 2011, 257, 7665-7670.	6.1	29
24	Influence of oxygen partial pressure on the properties of pulsed laser deposited nanocrystalline zirconia thin films. <i>Applied Surface Science</i> , 2011, 257, 8506-8510.	6.1	29
25	Tribological properties of sputter deposited ZrN coatings on titanium modified austenitic stainless steel. <i>Wear</i> , 2012, 280-281, 22-27.	3.1	27
26	The high temperature bulk modulus of aluminium: an assessment using experimental enthalpy and thermal expansion data. <i>Solid State Communications</i> , 2002, 122, 671-676.	1.9	26
27	Influence of nitrogen flow rate on growth of TiAlN films prepared by DC magnetron sputtering. <i>Surface Engineering</i> , 2007, 23, 7-11.	2.2	26
28	Drop Calorimetry Studies on 9Crâ€“1Wâ€“0.23Vâ€“0.06Taâ€“0.09C Reduced Activation Steel. <i>International Journal of Thermophysics</i> , 2010, 31, 399-415.	2.1	26
29	Microstructure and optical properties of Gd2O3 thin films prepared by pulsed laser deposition. <i>Surface and Coatings Technology</i> , 2015, 262, 56-63.	4.8	25
30	Crystal structure and bonding characteristics of transformation products of bcc Î² in Ti-Mo alloys. <i>Journal of Alloys and Compounds</i> , 2017, 705, 769-781.	5.5	25
31	Electrical Discharge Machining of Al (6351)-5% SiC-10% B<sub>4</sub>C Hybrid Composite: A Grey Relational Approach. <i>Modelling and Simulation in Engineering</i> , 2014, 2014, 1-7.	0.7	24
32	Phase separation and Î³ transformation in binary V-Ti and ternary V-Ti-Cr alloys. <i>Acta Materialia</i> , 2016, 121, 310-324.	7.9	23
33	A unified approach to phase and microstructural stability for Fe-ETM alloys through Miedema's model. <i>Intermetallics</i> , 2012, 23, 148-157.	3.9	22
34	Estimating enthalpy and bulk modulus from thermal expansion dataâ€“ a case study with Î±-Al2O3 and SiC. <i>Journal of the European Ceramic Society</i> , 2001, 21, 1229-1235.	5.7	21
35	Rietveld X-ray diffraction analysis of nanostructured rutile films of titania prepared by pulsed laser deposition. <i>Materials Research Bulletin</i> , 2010, 45, 6-9.	5.2	21
36	Microstructural characterization of transformation products of bcc Î² in Ti-15 Mo alloy. <i>Journal of Alloys and Compounds</i> , 2016, 658, 301-315.	5.5	21

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37	Characterization of crystallization kinetics of a Ni- (Cr, Fe, Si, B, C, P) based amorphous brazing alloy by non-isothermal differential scanning calorimetry. Journal of Alloys and Compounds, 2007, 440, 173-177.	5.5	19
38	Synthesis and sintering of nanocrystalline thoria doped with CaO and MgO derived through oxalate-deagglomeration. Journal of Nuclear Materials, 2013, 434, 223-229.	2.7	19
39	Phase Transition and Thermal Expansion Studies of Alumina Thin Films Prepared by Reactive Pulsed Laser Deposition. Journal of Nanoscience and Nanotechnology, 2014, 14, 7728-7733.	0.9	19
40	Thermal property characterization of a titanium modified austenitic stainless steel (alloy D9). Journal of Nuclear Materials, 2005, 347, 20-30.	2.7	18
41	High Temperature Heat Capacity of Alloy D9 Using Drop Calorimetry Based Enthalpy Increment Measurements. International Journal of Thermophysics, 2007, 28, 97-108.	2.1	18
42	Photoacoustic measurement of thermal properties of TiN thin films. Journal of Materials Science, 2008, 43, 1114-1120.	3.7	17
43	Alloy design and microstructural evolution in Vâ€Tiâ€Cr alloys. Materials Characterization, 2015, 106, 292-301.	4.4	17
44	Thermal expansion characteristics of a titanium modified austenitic stainless steel: measurement by high-temperature X-ray diffraction and modelling using GrÃ¼neisen formalism. Journal of Nuclear Materials, 2003, 317, 54-61.	2.7	16
45	Microstructural, nanomechanical and antibacterial properties of magnetron sputtered nanocomposite thin films of CrN/Cu. Surface Engineering, 2012, 28, 134-140.	2.2	16
46	Phase evolution in zirconia thin films prepared by pulsed laser deposition. Applied Surface Science, 2012, 258, 5157-5165.	6.1	15
47	X-ray diffraction Rietveld analysis and Bond Valence analysis of nano titania containing oxygen vacancies synthesized via sol-gel route. Materials Chemistry and Physics, 2019, 225, 320-330.	4.0	15
48	Microstructure, optical and dielectric properties of cerium oxide thin films prepared by pulsed laser deposition. Journal of Materials Science: Materials in Electronics, 2019, 30, 16548-16553.	2.2	14
49	On the thermodynamic interrelationship between enthalpy, volume thermal expansion and bulk modulus. Scripta Materialia, 2001, 44, 269-274.	5.2	13
50	Thermodynamic approximations for the mixed temperature and pressure derivative of bulk modulus: a case study on MgO. Physica B: Condensed Matter, 2002, 324, 312-321.	2.7	13
51	Thermal properties of 15-mol% gadolinia doped ceria thin films prepared by pulsed laser ablation. Ionics, 2007, 13, 47-50.	2.4	13
52	Microstructural studies of bulk and thin film GDC. Ionics, 2008, 14, 165-171.	2.4	13
53	Comment on "A new equation of state based on Grover, Getting and Kennedy's empirical relation between volume and bulk modulus. The high pressure thermodynamics of MgO" by M. H. G. Jacobs and H. A. J. Oonk, Phys. Chem. Chem. Phys., 2000, 2, 2641. Physical Chemistry Chemical Physics, 2001, 3, 1391-1393.	2.8	12
54	Influence of background gas atmosphere on formation of Cr <sub>2</sub> O <sub>3</sub> thin films prepared by pulsed laser deposition. Surface Engineering, 2009, 25, 223-227.	2.2	12

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55	A Study on the Influence of Copper Content in CrN/Cu Nanocomposite Thin Films Prepared by Pulsed DC Magnetron Sputtering. <i>Journal of Nanoscience and Nanotechnology</i> , 2009, 9, 5436-5440.	0.9	12
56	Synthesis and Properties of Ceria Thin Films Prepared by Pulsed Laser Deposition. <i>Journal of Nanoscience and Nanotechnology</i> , 2009, 9, 5421-5424.	0.9	11
57	Kinetics of solid state phase transformations: Measurement and modelling of some basic issues. <i>Journal of Chemical Sciences</i> , 2010, 122, 83-89.	1.5	11
58	Characterization of Al <sub>2</sub> O <sub>3</sub> /ZrO <sub>2</sub> nano multilayer thin films prepared by pulsed laser deposition. <i>Materials Chemistry and Physics</i> , 2012, 133, 299-303.	4.0	10
59	Structural characterization of electrodeposited boron. <i>Bulletin of Materials Science</i> , 2013, 36, 1323-1329.	1.7	10
60	Microstructural characterisation of TiAl thin films grown by DC magnetron co-sputtering technique. <i>Materials Letters</i> , 2000, 43, 106-113.	2.6	9
61	An integrated thermodynamic approach towards correlating thermal and elastic properties: development of some simple scaling relations. <i>Solid State Communications</i> , 2002, 124, 151-156.	1.9	9
62	Synthesis, crystal structure, dielectric properties, and potential use of nanocrystalline complex perovskite ceramic oxide Ba <sub>2</sub> ErZrO <sub>5.5</sub> . <i>Materials Research Bulletin</i> , 2007, 42, 1976-1985.	5.2	9
63	Thermal property characterization of a Ti-4wt.%Nb-4wt.%Zr alloy using drop and differential scanning calorimetry. <i>Journal of Alloys and Compounds</i> , 2008, 463, 160-167.	5.5	9
64	A Study on the Effect of Thermal Ageing on the Specific-Heat Characteristics of 9Cr-1Mo-0.1C (mass%) Steel. <i>International Journal of Thermophysics</i> , 2009, 30, 619-634.	2.1	9
65	Development of a CrN/Cu nanocomposite coating on titanium-modified stainless steel for antibacterial activity against <i>Pseudomonas aeruginosa</i> . <i>Biofouling</i> , 2012, 28, 779-787.	2.2	9
66	Effect of Creep Exposure on Microstructure and Mechanical Properties of Modified 9Cr-1Mo Steel. <i>Procedia Engineering</i> , 2014, 86, 116-122.	1.2	9
67	Thermal stability and thermal expansion behaviour of ZrO <sub>2</sub> /Y <sub>2</sub> O <sub>3</sub> multilayers deposited by pulsed laser deposition technique. <i>Materials Chemistry and Physics</i> , 2015, 162, 592-607.	4.0	9
68	Structure imaging and vanadium substitution in cubic TiCr <sub>2</sub> Laves phase. <i>Philosophical Magazine</i> , 2015, 95, 2403-2426.	1.6	9
69	Energetic considerations of ternary element substitution in $\beta$ -TiAl. <i>Journal of Physics and Chemistry of Solids</i> , 1991, 52, 931-938.	4.0	8
70	On the isobaric volume dependence of the ratio between volume thermal expansivity and specific heat ( $\frac{1}{V}\frac{dV}{dT}$ ). <i>Materials Letters</i> , 2003, 57, 3793-3801.	2.6	8
71	Electron Microscopy Studies on Oxide Dispersion Strengthened Steels. , 2012, , 117-128.		8
72	A study on the thermal expansion characteristics of Inconel-82 <sup>®</sup> filler wire by high temperature X-ray diffraction. <i>Materials Letters</i> , 2004, 58, 216-221.	2.6	7

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73	The entropy based contribution to bulk modulus: A thermodynamic analysis. Journal of Alloys and Compounds, 2006, 416, 58-63.	5.5	7
74	Nano-ionic thin films of gadolinia-doped ceria prepared by pulsed laser ablation. Ionics, 2007, 13, 343-348.	2.4	7
75	A study of structural transition in nanocrystalline titania thin films by X-ray diffraction Rietveld method. Materials Research Bulletin, 2010, 45, 1973-1977.	5.2	7
76	High temperature x-ray diffraction studies of zirconia thin films prepared by reactive pulsed laser deposition. Crystal Research and Technology, 2012, 47, 415-422.	1.3	7
77	Synthesis and Structural Characterization of Vâ€“4Tiâ€“4Cr Alloy. Transactions of the Indian Institute of Metals, 2013, 66, 381-385.	1.5	7
78	Structural systematics of cubic binary carbides and nitrides. Materials Letters, 1992, 15, 56-67.	2.6	6
79	Pulsed laser deposition of novel oxide materials. Surface Engineering, 2005, 21, 172-175.	2.2	6
80	Plasma plume behavior of laser ablated cerium oxide: Effect of oxygen partial pressure. Laser and Particle Beams, 2014, 32, 429-435.	1.0	6
81	Some observations on the paper by T.K. Nandy, D.Banerjee and A.K. Gogia. Scripta Metallurgica Et Materialia, 1991, 25, 975-978.	1.0	5
82	Application of the macroscopic atom model of cohesion to structural systematics of L10 compounds. Materials Letters, 1991, 12, 356-362.	2.6	5
83	Energetics of point defects in Î³-TiAl. Scripta Materialia, 1996, 34, 585-593.	5.2	5
84	Microstructural investigation of TiAl thin films grown on (111) oriented silicon substrate by DC magnetron sputtering. Scripta Materialia, 2001, 44, 1837-1840.	5.2	5
85	PHOTOACOUSTIC STUDIES ON TiAlN NANOSTRUCTURED THIN FILMS. International Journal of Modern Physics B, 2007, 21, 3889-3900.	2.0	5
86	The relation between bulk modulus and relative enthalpy: a broad-based thermodynamic analysis and a case study on aluminium. Materials Letters, 2002, 54, 13-20.	2.6	4
87	Enthalpy measurements on a titanium modified austenitic stainless steel. Materials Letters, 2005, 59, 1219-1222.	2.6	4
88	Effect of Thermal Aging on the Transformation Temperatures and Specific Heat Characteristics of 9Cr-1Mo Ferritic Steel. Defect and Diffusion Forum, 2008, 279, 85-90.	0.4	4
89	Electroextraction of boron from boron carbide scrap. Materials Characterization, 2013, 84, 134-141.	4.4	4
90	Microstructural and microchemical studies of phase stability in V-O solid solution. Materials Characterization, 2017, 124, 129-135.	4.4	4

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91	X-Ray Diffraction Analysis of Defects in Cold Worked Type 316 Stainless Steel. AIP Conference Proceedings, 2011, , .	0.4	3
92	Influence of CeO <sub>2</sub> layer thickness on the properties of CeO <sub>2</sub> /Gd <sub>2</sub> O <sub>3</sub> multilayers prepared by pulsed laser deposition. Vacuum, 2015, 113, 64-74.	3.5	3
93	Microstructural study of thin films of 5 mol% gadolinia-doped ceria prepared by pulsed laser ablation. Ionics, 2007, 13, 87-92.	2.4	2
94	X-Ray Diffraction Study of Nanocrystalline Titania Thin Films Prepared by Pulsed Laser Deposition. Journal of Nanoscience and Nanotechnology, 2009, 9, 5311-5314.	0.9	2
95	A comparative wear study of sputtered ZrN coatings on Si substrate. Transactions of the Indian Institute of Metals, 2011, 64, 37-40.	1.5	2
96	Thermal stability of CeO <sub>2</sub> /ZrO <sub>2</sub> multilayer thin films prepared by pulsed laser deposition. Transactions of the Indian Institute of Metals, 2011, 64, 297-299.	1.5	2
97	Characterisation of ZrAl and ZrAlN Thin Films Prepared by Pulsed DC Magnetron Sputtering. Transactions of the Indian Institute of Metals, 2013, 66, 363-367.	1.5	2
98	HRTEM investigation of phase stability in alumina-zirconia multilayer thin films. Bulletin of Materials Science, 2015, 38, 401-407.	1.7	2
99	Characterization and Performance of Magnetron-Sputtered Zirconium Coatings Deposited on 9Cr-1Mo Steel. Journal of Materials Engineering and Performance, 2016, 25, 4666-4679.	2.5	2
100	A new parameter for structure maps of intermetallic compounds. Materials Letters, 1993, 16, 123-129.	2.6	1
101	Title is missing!. Journal of Materials Science: Materials in Electronics, 1997, 8, 391-398.	2.2	1
102	Development of a thermodynamic framework for a combined analysis of thermal and elastic properties based on a linear scaling relation between logarithmic bulk modulus and enthalpy. Journal of Alloys and Compounds, 2004, 375, 72-85.	5.5	1
103	Microstructural study of thin films of 5 mol% gadolinia doped ceria prepared by pulsed laser ablation. Ionics, 2007, 12, 365-370.	2.4	1
104	Microstructural Studies of Nanocomposite Thin Films of Ni/CrN Prepared by Reactive Magnetron Sputtering. Journal of Nanoscience and Nanotechnology, 2009, 9, 5592-5595.	0.9	1
105	Details of an imaging atom probe. Bulletin of Materials Science, 1984, 6, 569-572.	1.7	0
106	Oxygen diffusion and defect mechanism in c-axis textured thin films of YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> by resistivity measurements. Bulletin of Materials Science, 1997, 20, 491-497.	1.7	0
107	Development of an effective interatomic potential for transition metals and alloys: Modified Wills-Harrison model. Bulletin of Materials Science, 1997, 20, 549-555.	1.7	0
108	Effect of ordering transformation on elastic and thermal properties: a simple phenomenological treatment. Scripta Materialia, 2000, 43, 977-981.	5.2	0

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109	A study on the thermal expansion characteristics of a dissimilar fusion joint by high temperature X-ray diffraction. Materials Letters, 2006, 60, 1527-1532.	2.6	0
110	High temperature XRD of zirconia/alumina multilayer thin films prepared by pulsed laser deposition. Proceedings of SPIE, 2009, , .	0.8	0
111	Microstructure Analysis of TaN/Cu Nanocomposite Coatings Deposited by Pulsed DC Magnetron Sputtering. Advanced Materials Research, 2010, 123-125, 427-430.	0.3	0
112	Microstructural, nanomechanical and tribological properties of ZrAlN thin films prepared by pulsed DC magnetron sputtering. , 2013, , .		0
113	Chemical and Microstructural Analysis of a Tin Coin of Sangam Period. Transactions of the Indian Institute of Metals, 2014, 67, 835-839.	1.5	0
114	Phase and Microstructure Evolution in V-Ti-(Cr/W) Alloys. Materials Today: Proceedings, 2016, 3, 2920-2925.	1.8	0