

**Details of Books published, if any: chapters appeared in books :7 Nos.**

SN	Chapter author	Title	Book name and publishers	Editors
7	S. K. Mishra, A. S. Bhattacharyya	<a href="#">Adhesion and Indentation Fracture Behavior of Silicon Carbonitride Nanocomposite Coatings Deposited by Magnetron Sputtering</a> , <a href="#">S. K. Mishra, A. S. Bhattacharyya</a> , 215-241	<a href="#">Springer Series in Materials Science</a> <b>Volume 187 2013</b> <b>Silicon-based Nanomaterials</b>	<a href="#">Handong Li</a> , <a href="#">Jiang Wu</a> , <a href="#">Zhiming M. Wang</a>
6	S. K. Mishra	Chapter 3: " Laser cladding and alloying for aerospace applications" Pages: 109-150, 2012,	<b>Aerospace Materials Handbook" 2012, CRC press (Taylor and Francis group)</b>	S. Zhang & D. Zhao
5	S. K. Mishra	Nano and fine processing of high temperature ceramics and in-situ composite by SHS process	Powder Metallurgy, <b>New age Int. Ltd Publishers</b> , 2007	P. Ramakrishnan
4	S. K. Mishra and L. C. Pathak	SHS synthesis of Advanced high temperature material	Advanced Materials, <b>Allied publishers</b> , 2003	L. C. Pathak, K, Venkateswarlu, A. Badhopadhyaya, a. K. ray
3	S. K. Mishra	Advanced techniques for surface engineering of industrial material	Resurgence of metallic materials the current scenario, Institute of Engineers, India (NML proceeding)	N.R. Bandopadhyaya, T.K. roy, R. N. ghosh, D. K. Bhattacharya, S. K. Narang, C. S. Sivramakrishnan, S. Ghosh
2	S. K. Mishra, P. Ramachandrarao	Synthesis and sintering of Zirconium diborides	Refractories and furnaces: New options and new values, <b>Allied publishers</b> , 2000	G. Ganguly, S. K. Das, S. K. Das, H. S. Tripathi
1	L. C. Pathak, S. K. Mishra, S. Srikanth	Effect of silver on sintering of high Tc superconductors	Composites, 1998, NML (Proceeding)	R.R. Bhat, s. ghosh, CS sivramakrishnan

**Complete list of publications in standard refereed journals: 114 (published 109: rest in review)**

Sl. No.	Authors	Title	<i>Journal Reference</i>	
114	Abinash Kumar, Soni, S.K.Mishra	Al-Cr-Si-N hard coatings by Magnetron sputtering: structure and mechanical behavior with substrate temperature	Physica status solidi A	2021
113	Soni, S.K. Sharma, S.K. Mishra	Hydrophobicity and High-temperature mechanical behaviour of Hard and Optically transparent Nanocomposite Al-Si-N thin films	Material Characterization in review	2021
112	Komal Singh, Soni, B. sivaiah, S.K.Mishra	Deposition of SnSe nano-thin film by physical vapour deposition for thermoelectric application	J Material science: Electronic materials, in review	2021
111	P Mahato, N.C. Murmu, H. Hirani, S. K Mishra, P. Banerjee,	Magnetron sputtered films prepared from sintered Ti-based target and evaluation of tribological properties under ball on disc condition with varying thickness and load	Tribology International, in review	2021
110	P Mahato, P. Banerjee, N.C. Murmu, Suman K Mishra	Investigation on mechanical, oxidation, structural and electrical behaviour of sputtered Ti-Si-B-C film with variation of thickness over target specific SS 304 surface	Applied surface Science, in review	2021
109	GK Mandal, M Dutta, Tipu Kumar, Avik Mondal, MG Walunj, SK Mishra, SK Das, R Pais, LC Pathak	Formation and growth of iron-zinc intermetallics during annealing treatment of galvanized steel	Journal of Metallurgy and Materials Science, 66, 1-2, 37-60	2020
108	Soni, S. K. Mishra	Strain rate sensitivity behaviour of Al metal, Al-Si metal alloy and Al-Si-N nanocomposite thin films: A comparative study	Materials Characterisation, 169, 110589	2020
107	S.K. Mishra	Toughening of nanocomposite hard coatings	Reviews on Advanced	2020

			Materials Science 59 (1), 553-585	
106	P. Verma, S.K.Mishra	Synthesis of iron boride powder by carbothermic reduction method	Materials Today: proceedings	2020
105	Soni, S.K.Sharma, S.K.Mishra	The effect of Si content on Structural, mechanical and optical behavior of magnetron sputtered Al-Si-N nanocomposite thin films	J. alloy and compounds, 831 August (2020) 154686 -154695	2020
104	A Shukla, B. Shivakumar, S.K.Mishra	Corrosion behavior of Ti-Si-B-C nanocomposites hard coating with different Si content on 4130 steel	Metallurgical and Materials Transaction A, vol 51 A, 2576-3586	2020
103	P. Mahato, S.K.Mishra, N. Murmu, N.C. Murmu, H. Hirani, P. Bannerjee	A prolonged exposure of Ti-Si-B-C nanocomposite coating in 3.5 wt% NaCl solution: Electrochemical and morphological analysis	Surface and coating Technology ,375, 477-488	2019
102	Bharat Verma, S.K.Mishra	Spectral and structural characterisation of low temperature layered growth of graphene by magnetron sputtering	Applied Physics A, <b>125, (8) 534</b>	2019
101	Soni, S.K. Sharma, S.K. Mishra	Influence of Nitrogen partial pressure on optical properties of magnetron sputtered Al-Si-N Thin films	Thin Solid Films, <a href="#">Volume 682</a> , 31 July 2019, Pages 1-9	2019
100	Divya Verma, D.Banerjee, S. K. Mishra*	The effect of Silicon content on the microstructure and mechanical properties of Ti-Si-B-C Nanocomposite hard coatings.	Metallurgical and Materials Transaction A, 50 A, 894-904	2019
99	S.K. Mishra, S. Kumari, soni	Optically transparent hard coatings of Al-Si-N system by magnetron sputtering: effect of different sputtering parameters	Journal of Materials Engineering and Performance 27 (12), 6729-6736	2018
98	S.K. Mishra, Swati Kumari, Soni	Development of hard and optically transparent Al-Si-N nanocomposite coatings	Surface and interface analysis, 49 (4), 345-348	2017
97	S.K. Mishra, V.Kumar, S.K. Tewari, T.Mishra, A.	Development and degradation behavior of protective multilayer	Thin Solid Films, 619, 202-207	2016

	Adhikari, G. angula	coatings for Aluminum reflectors for Solar thermal Applications		
96	P. Mahato, R.J. Singh, S.K. Mishra	Nano composite Ti-Si-B-C hard coatings deposited by magnetron sputtering: oxidation and mechanical behaviour with duration and temperature of oxidation.	Surf. Coat. & technol. 288, 230-240	2016
95	P Mahato, RJ Singh, LC Pathak, SK Mishra	Effect of nitrogen on mechanical, oxidation and structural behaviour of Ti-Si-B-C-N nanocomposite hard coatings deposited by DC sputtering	Surface and Interface Analysis 48 (10), 1080-1089	2016
94	S.K. Mishra, N. Jagadeesh, L.C. Pathak	Fabrication of nano sized Lanthanum zirconate powder and deposition of thermal barrier coating by plasma spray process	J mat eng & performance. 25 (7), 2570-2575	2016
93	S.K. Mishra, P. Mahato, G. Nyati	Wear, fracture and scratch behavior of nanocomposite TiSiBC hardcoatings deposited by Magnetron sputtering.	J Mat. eng. & performance, 25(9)-3774-3782	2016
92	S. K. Mishra, V. Shcherbakov	In-Situ synthesis of Ti-Si-C fine grained composite with different amount of TiC: microstructure and mechanical properties	J of refractory and hard materials. 59, 19-25	2016
91	S. K. Mishra, Rakesh Kumar, soni, M. Srimany, L.C. pathak	Ultrathin to thick nano TiN coatings by Magnetron sputtering for RF window & other applications: processing, structural, mechanical behavior	J of mater' eng. Perform 24(12) ,5013-5021	2015
90	Samir Bhatt, K. K. Suthar, Suman K. Mishra, and B. L. Ahuja	Compton profiles and electronic properties of TiB <sub>2</sub>	AIP proceeding <b>1665</b> , 090012 (2015); doi: 10.1063/1.4917992	2015
89	P K P Rupa, P. Chakroborty, S. K. Mishra	Structure and indentation behaviour of nanocomposite Ti-B-N films	Thin solid films <b>564, 160-169</b> ,	2014
88	R. Singh, M. Kumar, SK. Mishra	Laser cladding of Stellite 6 on stainless steel to enhance solid particle erosion and cavitation resistance"	Surface & coating Technology, <b>251, 87-97</b>	2014
87	S. K. Mishra, P	EBPVD Thermal barrier coatings	Surface	2014

	shravankumar, S Bysakh, M. Srimany, L C Pathak	of Laz/YSZ, microstructural and mechanical behaviour	&interface analysis, accepted 46, 449-456	
86	S.Madge, A. Caron, S. K. Mishra	Novel W-based metallic glass with high hardness and wear resistance	Intermetallics, 47,6-10	2014
85	S. K. Mishra, A bhople, S. Paswan	Microstructure, hardness, toughness and oxidation resistance of Al <sub>2</sub> O <sub>3</sub> -ZrB <sub>2</sub> composite with different Ti percentages prepared by in-situ SHS dynamic compaction	Int. J. Refractories metals and hard materials, 43,7-12	2014
84	S. K. Mishra, V. Gokul, S. paswan	Alumina-titanium diboride in situ composite by self propagating high temperature synthesis (SHS) dynamic compaction: Effect of compaction pressure during synthesis	Int. J. Refractories metals and hard materials, 43,19-24	2014
83	S. K. Mishra, D. Verma, S Bysakh, L.C. pathak	Hard and Soft Multilayered SiCN Nanocoatings with High Hardness and Toughness	J nanomaterials., Volume 2013 (2013), Article ID 949416, 8 pages <a href="http://dx.doi.org/10.1155/2013/949416">http://dx.doi.org/10.1155/2013/949416</a>	2013
82	M.Kumar, R. Mitra, S. K. Mishra	Effect of substrate bias and annealing on the structure-property relationships of Ni-TiN, nanocomposite thin films deposited by reactive magnetron co-sputtering	Surface coating technology, 228,100-114	2013
81	S. K. Mishra, P mahto, L.C. Pathak	Thermal stability and effect of substrate temperature of TiSiBC hard nanocomposite coatings on microstructure, mechanical, thermal behavior deposited by magnetron sputtering	Applied surf. Sci, <b>266,209-213</b>	2013
80	L.C. Pathak, S. K. Mishra	Superhard coatings	Science and Culture, 78(12)557-562	2012
79	R. Singh, S k Tiwari, S. K. Mishra	Cladding of tungsten carbide and stellite using high power diode	Advanced Materials	2012

		laser to improve the surface properties of stainless steel	Research Vol. 585 pp 498-501	
78	Raghuvir Singh, Mukesh Kumar, Deepak Kumar, and Suman K. Mishra	Erosion and corrosion behavior of laser cladded stainless steels with tungsten carbide	J. Material. Eng. & Performance, 21, 2274-2282.	2012
77	S. K. Mishra, S Pande Mahato, Sravankumar Bysakh, M. Sreemani, L. Pathak	Microstructural studies on electro deposited NiCrAlY, YSZ Lanthanum Zirconate for thermal applications	Surface coating & technol. 207,143-148	2012
76	Suman Mishra, A Bhattacharyya, P Mahato, and Lokesh Pathak	"Multicomponent Ti-Si-B-C super-hard and tough nanocomposite coatings by magnetron sputtering" by	Surf coat technol, 07,19-23	2012
75	S. K. Mishra, P. K. P. Rupa, A. S. Bhattacharya, L. C. Pathak	XPS studies on magnetron sputtered nano SiCN hard thin films,	J Nanoscience and Nanotechnology Letters,4, 352-357,	2012
74	R. Singh, S.K.Tiwari, S. K. Mishra	Cavitation Erosion in Hydraulic Turbine Components and Mitigation by Coatings: Current Status and Future Needs	J. Material. Eng. & Performance, 21(7),1539-1551	2012
73	S. K. Mishra, S. Sen, P. Mohanta, L. C. Pathak	Effect of nitrogen on structural, microstrucral and mechanical properties of carbon nitride film grown by PECVD	J Nanoscience and Nanotechnology Letters, 4,90-94	2012
72	P. Karuna Purnapu Rupa, P. C. Chakraborti, Suman.K.Mishra	Indentation Response and Contact Damage of Hard T-B-N Films Deposited by Magnetron Sputtering	Eurasian Chemico-Technological Journal Volume 13, Number 1-2, 81-84	2011
71	Raghuvir Singh • S. K. Tiwari • Suman K. Mishra • Narendra B. Dahotre	Electrochemical and mechanical behavior of laser processed Ti-6Al-4V surface in Ringer's physiological solution	J Mater Sci: Mater Med (2011) 22:1787-1796	2011
70	P. Karuna Purnapu Rupa, P. C. Chakraborty, and Suman Kumari Mishra	Nanoindentation Studies Of Hard Nanocomposite TiBN Thin Films	American Institute of physics Proceed;1393, 239.	2011

69	S. K. Mishra, Khoosboo, V sherbakov	Fabrication of in-situ Ti-Si-C fine grained composite by the self propagating high temperature synthesis (SHS) process	Int j. Hard and refractory material, 29 (2),209	2011
68	A.S Bhattacharyya, S. K. Mishra	Micro-nanomechanical behavior of magnetron sputtered Si-C-N coatings through nanoindentation and scratch tests	J of micromechanics and microengineering, 21, 1,015011	2011
67	A. S. Bhattacharyya, S. K. Mishra	Raman studies on nanocomposite silicon carbonitride thin film deposited by RF magnetron sputtering at different substrate temperature	J. Raman spectroscopy 41,1234-1239	2010
66	A.S.Bhattacharya,S.Mukherjee, S. K. Mishra	Correlation of mechanical, structure of Silicon carbonitride coatings deposited at different processing condition by magnetron sputtering	J. Vac. Sci & Technol A <b>28</b> , 505 (2010)	2010
65	A.S.Bhattacharya,S.Mukherjee, S. K. Mishra	The effects of substrate temperature on the microstructure of thin film Si-C-N coatings deposited by RF magnetron sputtering	European coatings journals, issue 3,108-114	2009
64	S. K. Mishra, L. C Pathak	SHS synthesis of Advanced high temperature Ceramics; a review (invited) [ <b>sp issue on high temperature materials</b> ]	Key Engineering Material , 395, 15	2009
63	A. S. Bhattacharyya, S.P.Mukherji, G. C. Das, s. K. Mishra	A comparative study of Si-C-N films on different substrates grown by RF magnetron sputtering	J. alloy and compounds 478,474	2009
62	P. K. P. Rupa, S. K. Mishra,	Mechanical and deformation behaviour of TiB <sub>2</sub> thin films deposited by magnetron sputtering	Thin Solid films, 517,, pp. 2912-2919	2009
61	S. K. Mishra	Nano and nano-composite super hard coatings of silicon carbonitride and titanium diboride by Magnetron sputtering ( <b>invited</b> )	International. J.Appl. Ceram. Technol. 6(3),345-354	2009
60	A. S. Bhattacharya, S. K. Mishra	Effect of radio frequency and direct current mode of deposition on protective metallurgical hard	Vacuum, 83, 1464-1469	2009

		silicon carbon nitride coatings by Magnetron Sputtering		
59	S.Sen and S.K.Mishra	Dielectric and conductivities studies on PMN-PT-PVDF nanocomposite	J. of physics D, 41, 165305	2008
58	A. S. Bhattachraya, S. K. Mishra	Effect of substrate temperature on the adhesion properties of magnetron sputtered nano-composite Si-C-N hard thin films	Materials Letter, 62,398	2008
57	S.Sen, S. K. Mishra, S.sagar, S. K. Das	"Preparation and characterization of PMN-PT nanocomposite",	Ind. J. eng and material science , 15(2),111	2008
56	Suman Kumari Mishra and Arnav Shankar Bhattacharya,	Effect of substrate temperature on the Adhesion properties of magnetron sputtered Nanocomposite Si-C-N hard thin films	Materials Letter,62(3), 398-402	2008
55	S. K. Mishra, S. K. Das, L. C. Pathak	Effect of C and Ti C on sintering of ZrB <sub>2</sub> Powder prepared by SHS, Carbothermic and imported routes	J. Alloy and compounds,465,547	2008
54	S. Sen, S.K. Das S.K. Mishra and A.Tarafdar,	Low temperature synthesis of 0.65 PbMg <sub>1/3</sub> Nb <sub>2/3</sub> O <sub>3</sub> -0.35PbTiO <sub>3</sub> ceramics	J. Am. Ceram. Soc., 90(8), 2634-2638	2007
53	S.Sen, S.K Das, S.K. Mishra, S.Palit Sagar, A.Tarafdar	Impedance analysis of 0.65Pb(Mg <sub>1/3</sub> Nb <sub>2/3</sub> )O <sub>3</sub> -0.35PbTiO <sub>3</sub>	Journal of Alloys and Compounds, 395-400	2007
52	S. K. Mishra, L. C. Pathak, V. Shcherbakov,	Fabrication of Al <sub>2</sub> O <sub>3</sub> -ZrB <sub>2</sub> in-situ composite by SHS dynamic compaction: a novel approach	Compo. Sci. Technol. 67(11-12),2447-2453	2007
51	A. Mukhopadhaya, B. Basu, S. K. Mishra, J. refractory and hard materials	Pressureless sintering of ZrO <sub>2</sub> -ZrB <sub>2</sub> Composites:Microstructure and properties	25(2), 179-188	2007
50	S.K.Mishra, K.P.K.Rupa, C.Sekhar and L.C.Pathak	Effect of deposition parameters and substrate temperature on Si-C-N films by magnetron puttering	Thin Solid Film 515(11), 4738-4744s	2007
49	S.K.Mishra, K.P.K.Rupa, L.C.Pathak	Surface and Nano-indentation studies on nanocrystalline TiB <sub>2</sub> thin film by magnetron sputtering	Thin solid films, 515 (17),6884-6889	2007



48	S. K. Mishra, P.K. P. Rupa, S. K. Das, V. Shcherbokov	Effect of titanium diluent on the fabrication of $Al_2O_3-ZrB_2$ composite by SHS dynamic compaction	Compos. Sci. Technol. 67(7-8) 1734-1739	2007
47	S. Das Bakshi, B. Basu, S. K. Mishra,	Microstructure and mechanical properties sinter-Hiped $ZrO_2-ZrB_2$ ceramics	composite A:;37,11, ,2128-2135	2006
46	S. Das Bakshi, B. Basu, S. K. Mishra,	Fretting wear properties of sinter HIPED $ZrO_2-ZrB_2$ composite	composite A: Applied Science & Manufacturing37, 10, 1652-1659	2006
45	S.K.Mishra, H.Gaur, K.P.K. Rupa and L.C.Pathak	Deposition of nano-structured Si-C-N superhard coatings by RF magnetron sputtering	J. Vac. Sci. Technol. B 24(3) 1311	2006
44	S.K.Mishra, S. K. Das L.C.Pathak	Sintering studies on $ZrB_2-Al_2O_3$ composites prepared by SHS technique	Mater. Sci. Engg. A 426 229	2006
43	S. K. Mishra, P.K. P. Rupa, S. K. Das, V. Shcherbokov	Effect of alumina diluent on the fabrication of Alumina-boride - composite by SHS dynamic compaction	Metall. Mater. Trans. B, 37 b, 641	2006
42	S.K.Mishra, K.P.K.Rupa and L.C.Pathak	Nucleation and growth behaviour of $TiB_2$ thin films deposited by RF sputtering unit	Surf. Coat.. Technol. 200 4078	2006
41	A.K.Khanra, L.C.Pathak, S.K. Mishra and M.M.Godkhindi	Sintering of ultrafine Zirconium diboride powder prepared by a modified SHS technique	Adv. Appl. Ceram. 104 282	2005
40	S.K.Mishra and L.C.Pathak	Fabrication of $C_3N_4$ thin films by ARC evaporation technique	Mater. Lett. 59 3481	2005
39	L.C.Pathak and S.K.Mishra	A review on Synthesis of Y-Ba-Cu-oxide powder : Topical Review	Supercond. Sci. Technol. 18 R67-R89	2005
38	S. K. Mishra and S. K. Das	Sintering and microstructural behaviour of SHS produced zirconium diboride powder with the addition of C and TiC	Mater. Lett., 59, 3467	2005
37	S.K.Mishra and L.C.Pathak	Self-propagating High-temperature synthesis of advanced materials	J. Metals Mater. Processes vol.16,2-3, 247, 2004.	2004
36	L.C.Pathak, S.K.Mishra, D.Bhattacharya and K.L.Chopra	Synthesis and sintering characteristics of YBCO superconductors	Mater. Sci. Engg. B 110(2) 119-131	2004
35	S.K.Mishra, S.Das and L.C.Pathak	Defect structure in $ZrB_2$ powders prepared by self-propagating high-	Mater. Sci. Engg. A 364 (1-2) 249-	2004

		temperature synthesis route	255	
34	A. Khanra, L.C.Pathak, S.K.Mishra, M.M.Godkhindi	Effect of NaCl on the synthesis of TiB <sub>2</sub> powder by a self-propagating high-temperature (SHS) technique	Materials Letters 58(5) 733-738	2004
33	S. K.Mishra, S. K. Das, P. Ramachandrarao, D. Belov, S. S. Mamyán	SHS synthesis of Zirconium Diboride- Alumina composite– A dynamic Xray study and phase evolution	Phil. Mag. Lett, 84,1,41-46	2004
32	A. Khanra, L.C.Pathak, S.K.Mishra, M.M.Godkhindi	Effect of NaCl on the synthesis of ZrB <sub>2</sub> powder by a self-propagating high-temperature (SHS) technique	J. Mater. Sci. Letters 22, 1189	2003
31	S. K. Mishra(Pathak), S.K.Das, P.Ramachandra Rao,D.Belov, .S.Mamyán,	Synthesis of Zirconium Diboride – Alumina composite by SHS Process	Mater. Trans. A, 34, 1973	2003
30	L.C.Pathak and S.K. Mishra(Pathak), , “	Synthesis of YBCO Powder”-A Review	Advances in Condensed Matter and Materials Research, Volume 4 –Nova Publishers	2002
29	S. K.Mishra, S. Das, P. Ramachandrarao	Microstructure evolution during sintering of SHS produced ZrB <sub>2</sub> powder	J. Mater. Res. 17,11, 2809-2814	2002
28	L.C.Pathak, S.K.Mishra (Pathak) and S.Srikanth	Effect of sintering atmosphere on the sintering characteristics of YBCO-Ag <sub>x</sub> superconductors	J. Mater. Res. 17 (4) 895	2002
27	S.K.Mishra(Pathak), S.Das, S.Ranganathan	TEM study on HSLA Steel	Mat. Sci. Eng. A, vol. 323/1-2, 285-292,.	2002
26	S.K.Mishra(Pathak), S.K.Das, A.K.Ray and P.Ramchandraro.	Effect of Fe and cr addition on sintering behaviour of ZrB <sub>2</sub> prepared by SHS process	J.Am.Cerm. Soc., 85,11, 2846-1848,	2002.
25	L.C.Pathak, S.K.Mishra(Pathak), S.K.Das, D.Bhattacharya and K.L.Chopra	Effect of sintering atmosphere on the weak-link behaviour of YBCO superconductors	Physica C, 351, 295-300	2001
24	P.Ramchandraro and S.K.Mishra-	Zirconium Diboride synthesis and sintering- Refractories & furnaces- New options and new values	31-39, Published by Allied publishers	2000.
23	S.K.Mishra(Pathak), S.Das, S.K.Das and P.Ramachandrarao	Pressureless sintering of ultrafine ZrB <sub>2</sub> powder produced by SHS process	J.Mater. Res. vol. 15(11),2499	2000
22	L.C.Pathak, S.K.Mishra, D.Bhattacharya and	Sintering characteristics of submicrometre sized SrTiO <sub>3</sub>	Trans. Mater. Res. Jpn. 24(4)	1999

	K.L.Chopra	powder prepared by co-precipitation process	525	
21	L.C.Pathak, S.K.Mishra, D.Bhattacharya and K.L.Chopra	Synthesis and sintering characteristics of YBCO-Ag superconductors	J. Mater. Res. 14 4148	1999
20	L.C. Pathak, S.K.Mishra, D.Bhattacharya and K.L.Chopra	Degradation of BPSCCO superconductors during processing	J. Mater. Sci. 34 1619	1999
19	G.Das, A.N.Sinha, S.K. Mishra(Pathak) and D. K. Bhattacharya	Failure Investigation of counter shafts of a centrifugal pump	J. Engg. Failure Anal. 6,267	1999
18	S.K.Mishra(Pathak), S.K.Das, A.Roy and P.Ramchandrarao	Effect of nickel on sintering of SHS produced titanium carbide	J. Mater. Res. Vol.14,9, 3594	1999
17	S.K.Mishra(Pathak), S. Ranganathan, S.K.Das and S.Das	Investigations of precipitation behaviour in high strength low alloy (HSLA) Steel	Scripta Materilia, 39, 2,253,	1998
16	L.C.Pathak, S.K.Mishra, D.Bhattacharya, A.Dhar and K.L.Chopra	Effect of laser annealing on Y-Ba-Cu-oxide superconductors	Mater. Res. Bull. 32 p619-625	1997
15	S.K.Mishra, L.C.Pathak and V.Rao	Synthesis of submicron Ba-hexaferrite powder by a self-propagating chemical decomposition process,	Mater. Lett. 32 p 137-141	1997
14	L.C.Pathak, S.K.Mishra, D.Bhattacharya and K.L.Chopra	A comparative study of YBCO Powders prepared by different processes	J. Mater. Sci. Lett. 16 p1208-1211	1997
13	S.K.Mishra(Pathak), S.Das, R.P.Goel and P.Ramachandrarao,	Self Propagating High Temperature synthesis (SHS) of titanium Carbide,	J.Mater.Sci. 16 965-967	1997
12	S.K.Mishra, L.C.Pathak, V.Rao, D.Bhattacharya and K.L.Chopra	Studies on microbridges of superconducting YBCO thin film	J. Supercond. 9 p219-p224	1996
11	L.C.Pathak, S.K.Mishra, D.Bhattacharya and K.L.Chopra	Fabrication and characterisation of Y-Ba-Cu-oxide whisker	Mater. Res. Bull. 31p1-6	1996
10	L.C.Pathak, S.K.Mishra, D.Bhattacharya and K.L.Chopra,	Fabrication of YBa <sub>2</sub> Cu <sub>3</sub> O <sub>x</sub> single crystal	J. Mater. Sci. Lett. 15 p34-35	1996
9	S.K.Ray, S.K.Mishra, A. Sarkar, A.Dhar, D. Bhattacharya and K.L Chopra,	Molecular Beam Epitaxial growth of high Tc Bi-Sr-Ca-Cu-O film,	J. Superconduc. ,8 (3), 377-381	1995
8	L.C.Pathak, S.K.Mishra, P.G.Mukunda, M.M.Godkhindi,	Sintering studies on submicrometre sized Y-Ba-Cu-oxide powder	J. Mater. Sci. 29 p5455-5461	1994

	D.Bhattacharya and K.L.Chopra,			
7	M.V.H.Rao, S.K.Mishra, L.C.Pathak, B.K.Mathur, D.Bhattacharya and K.L.Chopra,	Interlocked grain growth of YBCO film on magnesium oxide as observed by scanning tunnelling microscopy	Mater. Res. Bull. 28 p271-277	1993
6	S.K.Mishra, A.Sarkar, S.K.Ray, L.C.Pathak, D.Bhattacharya, K.L.Chopra and S.R.Das	Langmuir probe diagnostics of a radio frequency magnetron discharge for deposition of high $T_c$ YBCO films	J. Vac. Sci. Technol. A 11 p2747-2751 & Errata 12 (1994) p603	1993
5	S.K.Mishra, L.C.Pathak, M.V.H.Rao, D.Bhattacharya and K.L.Chopra	Dependence of the properties of rf magnetron sputtered superconducting films on plasma parameters	Ind. J. Pure Appl. Phys. 30 p685-691	1992
4	V.Vasudeva Rao, S.K.Mishra, L.C.Pathak, R.Subramaniam	Video detection of microwaves using high $T_c$ Y-Ba-Cu-O thin films	J. Supercond. 5 p29-32	1992
3	S.K.Mshra, L.C.Pathak, S.K.Ray, S.Kal, D.Bhattacharya, S.K.Lahiri, and K.L.Chopra	Lithographic patterning of superconducting YBCO films	J. Supercond. 5 p445-449	1992
2	D.Bhattacharya, D.K.Pandya, S.C.Kasyap, L.C.Pathak, S.Mishra, D.Sen and K.L.Chopra,	Lattice and electronic structure of YBa <sub>2</sub> Cu <sub>2</sub> PbO <sub>x</sub> superconductor,	Physica C 170 p245-248	1990
1	D. Bhattacharya, L.C.Pathak, S.K.Mshra, D.Sen and K.L.Chopra	Pyrophoric synthesis technique for multicomponent high-temperature superconductors	Appl. Phys. Lett.57 p2145-2147	1990

#### **List of publications in symposia and conferences: 74**

74	S.K. Mishra,invited	2018	Corrosion and wear coating on steel research at NML.	Proceeding , Int. Conf. ASIA Steel Feb 2018
73	S.K. Mishra,invited	2017	Alternative coatings on steel	<b>National workshop on HDGS 2017- August 2017</b>
72	S.K. Mishra, Invited	2016	Multilayer coatings for solar thermal applications	NMD - ATM 2016 at IIT Kanpur, organised by Indian Institute of Metals
71	S. K. Mishra, invited	2016	Surface engineering for	Industrial

			corrosion and wear protection	HIGH technical manager training at Jamshedpur, May 2016
70	S. K. Mishra, invited	2016	Nanocomposite hard coatings for engines	INDO-US workshop and discussion meeting in coatings at Koor, organised by IIT Mumbai and IISc Bangalore, March 2016
69	S. K. Mishra, invited	2015	Surface engineering at NML	International Seminar on surface engineering, SSPC at greater Noida Oct 2015
68	P. Mahto, S. K. Mishra	2013	Nanocomposite TisiBC coating for hard,tough and high temperature application	Indian Ceramic Society, Annual conference
67	P.Mahato, S. K. Mishra	2013	Oxidation behaviour of Nanocomosite coating	NMD 2013, at BHU, India
66	S K Mishra, L. C. Pathak	2013	Multilatered Thermal barrier coatings	AEROMA T , USA Seattle, organised by ASM International
65	S. K. Mishra, inv	2013	Wear and Oxidation resistance coatings for thermal power plants	NTPC, power magement Institute, Jan2013
64	S. K. Mishra, Inv	2012	Deposition, deformation and mechanical behavior of hard and tough nano-composite thin films by Magnetron sputtering	National Seminar on nanotechnology, Raigarh,Aug 2012
63	S. K. Mishra, Inv.	2012	Deformation and mechanical behavior of hard and tough nano-composite thin films by Nanoindentation.	Nanoindent ion seminar by Agilent USA, and Tosniwal and others at DelhiJuly 2012
62	S.K. Mishra, Inv.	2012	Hard yet tough coatings for wear & oxidation resistance and high temperature applications	Diamon Jublee Seminar at IIt kahragspur Jan 2012

61	S. K. Mishra, P.Mahato,L.C. Pathak	2011	Effect of substrate temperature on Ti-Si-B-C super-hard Nanocomposite Coatings deposited by RF/DC magnetron sputtering	NMD 2011
60	S. K. Mishra	2011	Hard coatings of TiB <sub>2</sub> , TiB-N, Ti-Si-B-C-N for wear & oxidation resistance and high temperature applications	NMD 2011
59	P.K. P.rupa, P.C. Chakraborty,S.K. Mishra	2011	Indentation response and contact damage of hard Ti-B-N films deposited by magnetron sputtering	International Symposium on Advanced Ceramics, Composites and Nanostructured Materials (ISACCNM-2011), Vidya nagar
58	P.K. P. Rupa, P.Chakraworti, S. K. Mishra	2011	Nanoindentation Studies Of Hard Nanocomposite TiBN Thin Films	Int. Conf ICACNM-2011, Chandigarh
57	S. K. Mishra (Inv.speaker)	2011	Materials for future technology	IIM Kolkota
56	S. K. Mishra (Inv.speaker)	2011	Deposition of hard silicon carbonitride (SiCN) nanocomposite and multilayered thin films by Magnetron sputtering	Int. Conf on Avanced Materials, Singapore
55	S. K. Mishra (inv speaker)	2011	Nanocomposite by shs process	Int. conf ISME at Pune
54	S. K. Mishra , do	2011	Nanocomposite coatings for autiomobiles	ASM int. conf at Mumbai
53	S. K. Mishra, do	2011	Mechanical properties of small volume and thin films by nanoindentation	Jadavpur university metallix 2011
52	P. Mahato,S. K. Mishra, L.C Pathak.	2010	TiSiBC nanocomposite film with very low coefficient of friction	NMD 2010, Bangalore
51	S. K. Mishra do	2010	Deformation and Mechanical behaviour of hard nanocomposite thin films	Jadavpur University, seminar on “

				Wear, deformation, mechanical behaviour of materials” March 2009
50	S. K. Mishra	2009	Fine and nano borides and its composite by SHS process	University of Central Florida, USA as invited speaker in workshop on “Boron rich solids”, arranged by UCF and NASA, Dec 2009
49	S. K. Mishra, do	2009	Nanocomposite hard coatings for industrial application	Workshop on surface engineering, at PUNE, Jan 2009
48	S. K. Mishra	2008	SHS synthesis of advanced ceramics	Seminar at NPL on advanced processing
47	P.K. P Rupa, L. C. pathak, S. K. Mishra	2008	Mechanical Behaviour of Nanocomposite TiB <sub>2</sub> coatings	Int. Conf. Singapore, THIN FILM 2008
46	A. S. Bhattacharya, L. C. Pathak, S. K. Mishra	2008	Nanocomposite SiCN coatings by magnetron sputtering	Int. Conf at Singapore, Thin film July 2008
45	A. S. Bhattacharya, S. K. Mishra	2008	Nano composite SiCN hardcoatings, a comparison of RF Dc deposition	Int. seminar, on nano materials (ICONSAT), Chennai 2008
44	A. S. Bhattacharya, S. K. Mishra	2008	SiCN coatings on steel substrate	Int. seminar, coated steel, convenor Tata steel
43	A. S. Bhattacharya, PKP Rupa, S. K. Mishra	2007	Adhesion and mechanical properties of nanostructured SiCN thin film	NSNT-2007
42	S. K. Mishra, Inv. Talk	2007	Deposition and mechanical properties of nanostructured thin films	MRSI seminar at Lucknow Univ. March 2007
41	S. K. Mishra-Inv. Talk	2007	Mechanical properties of thin films	Seminar on “deformation & damage of

				materials” Jan 2007 Jadavpur Univ.
40	S. K. Mishra	2007	Nano composite SiCN thin film by magnetron sputtering for wear resistance and functional applications	NSTI-2007, Hyderabad
39	A. S. Bhattacharya, S. K. Mishra	2006	Effect of substrate temperature and adhesion studies on SiCN Nano-composite thin film	NMD 2006
38	A. S. Bhattacharya, PKP Rupa, L. C. Pathak, S. K. Mishra,	2006	Effect of substrate temperature on nano-composite SiCN thins by magnetron sputtering	ICRNT 2006
37	P. K. P. Rupa, L. C. Pathak, S. K. Mishra	2006	Nano indentation studies of TiB <sub>2</sub> film	NMD 2006
36	S. K. Mishra, PKP Rupa, L. C. Pathak	2005	Deposition of nano TiB <sub>2</sub> film by magnetron sputtering	NMD 2005
35	S. K. Mishra inv. Talk	2005	Surface Engineering of industrial materials	DST workshop for engineering faculties of India under QIP programme held at BIT Mesra
34	S. K. Mishra inv. Talk	2005	nanocomposite hard coatings for industrial applications:	international symposium on Nano materials at BIT Mesra
33	S. K. Mishra inv. Talk	2004	SHS processing of advanced ceramics	MRSI Jamshedpur chapter
32	S. K. Mishra, L. C. Pathak, V. Shcherbakov	2003	SHS synthesis and sintering of Al <sub>2</sub> O <sub>3</sub> -ZrB <sub>2</sub> composite	International Russia-France summit Sept'2003 on SHS held at ISMAN, Russian Academy of science Russia
31	S. K. Mishra	2004	Self propagating high temperature synthesis of nano and fine borides and their composite	MRSI 2004 (MRSI medal award lecture)
30	S. K. Mishra	2003	Advanced techniques for surface engineering of Industrial materials	Reurgence of metallic materials, the current



				scenario, Pub. Insitute of engineers India, 128-140, 2003
29	S. K. Mishra and L. C. Pathak	2003	Self propagating high temperature synthesis (SHS) of advanced high Atemperature material	Advanced Materials Proceeding of Indo-Malaysian workshop, Allied publishers, editors L. C. pathak et.al 107-120, 2003
28	A. Khanra, L. C. Pathak, S. K. Mishra, M. M. Godhkhindi	2004	Synthesis of ultrafine ZrB <sub>2</sub> powder by modified SHS technique	International conference (ISAMAP) IIT Kharagpur Dec 2004.
27	S. K. Mishra, H. Gaur, PKP Rupa, L. C. Pathak	2005	Synthesis of SiCN nano hard coatings by RF magnetron sputtering	National seminar of nano science and Technol. organised by DST at NCL Pune in March'2005.
26	S. K. Mishra( Invited lecture)	2004	Synthesis of nano and fine ceramics by SHS process	International conference on powder Metallurgy, organized by Powder metallurgy association of India and IIT powai
25	S. K. Mishra, S. Das & S. K. Das	2003	Microstructure evolution in Boride & its composite prepared by SHS process	EMSII Annual conference held at Shimla, April 2003
24.	A. K. Khanra, L. C. Pathak, S. K. Mishra, M.M. Godkhindi, P. G. Mukunda	2003	Production of fine ZrB <sub>2</sub> powder and whisker by SHS Technique	annual ATM-29 of powder metallurgy. Jan.30-31, 2003 at Goa.
23.	A. K. Khanra, U. K.singh, S. Paswan, L. C. Pathak, S. K. Mishra, M.M.	2003	Production of very fine ZrB <sub>2</sub> powder by SHS Technique	annual ATM-29 of powder metallurgy.

	Godkhindi, P. G. Mukunda			Jan'2003
22	S. K.Mishra-Invited speaker	2002	hard ceramics and their composites by SHS processing	Annual AGM of Indian Ceramic society Dec'2002.
21	S.K.Mishra	2002	., Advanced surface engineering, Resurgence of metal and materials (ROMM)	Institute of engineers, NML Jamshedpur
20	S. K.Mishra, L.C.Pathak, Du, Belov, P.Ramchandra Rao	2002	SHS synthesis of Advanced high temperature materials	Indo-Malysesian workshop (WAM-2002), NML Jamshedpur
19	S. K.Mishra(Pathak), S. K. Das and P.Ramchandrarao	2002	., Sintering and microstructural behaviour of SHS produced Zirconium Diboride based composite	ICAMMP-2002, Int. Symposium at IIT Kharagpur'2002
18	S. K.Mishra(Pathak), S. Das and P.Ramchandrarao	2001	Sintering of SHS produced Zirconium Diboride. - A TEM study-	NMD 2001 held at RRL Bhubneshwar
17	S. K.Mishra(Pathak), S. K. Das and P.Ramchandrarao	2001	., Sintering and microstructural behaviour of SHS produced Zirconium Diboride based composite	Int. conference on SHS, SHS 2001, held at Israel
16	S. K. Mishra(Pathak), S.das, S.K.Das, A.Roy, P.Ramchandrarao	1999	Effect of different addition on sintering behaviour of SHS produced ZrB <sub>2</sub>	Proceeding NMD'1999
15	L.C.Pathak and S. K. Mishra(Pathak)	1998	Synthesis of Nano-crystalline Aluminates powder by a solution Combustion technique	Proc. Int. Seminar at BHU, Dec'1998
14.	S. K. Mishra(Pathak)	1998	Sintering of ZrB <sub>2</sub> produced by SHS process	Indo Russian workshop at Hyderabad on SHS products under ILTP programme
13	L.C. Pathak, S. K. Mishra and S.Srikant	1998	Effect of silver on sintering of high Tc superconductors	National Seminar on Composites, COMPEAT-98 at NML Jamshedpur, Proc. pp175, 1998.
12.	S. K.Mishra (Pathak)	1998	Zirconium diboride- a potential high temperature material	Seminar on Aerospace High Temp. Mater., At NAL Bangalore
11.	S. K. Mishra (Pathak), R.P.	1998	Effect of Ni on sintering of	IX AGM, MRSI,

	Goel., S.Das, and P.Ramachandrarao		SHS produced Titanium carbide	Feb. 1998, IIT Madras
10	G.Das, S.K. Mishra (Pathak), S.KDas, and A.N.Sinha	1997	Premature failure of EN24 steel due to improper heat treatment	51th ATM, IIM-NMD Nov. 1997, Jamshedpur e
9	. S. K. Mishra (Pathak), R.P.Goel, S.Das, and P.Ramachandrarao	1997	Effect of Ni and H <sub>3</sub> BO <sub>3</sub> on the synthesis of ZrB <sub>2</sub> by SHS technique	51th ATM, IIM-NMD Nov. 1997, Jamshedpur
8	. S. K. Mishra Pathak), R.P. Goel., S.Das, and P.Ramachandrarao	1997	Synthesis of zirconium diboride by SHS process	CERAMICS-97, workshop at ARC at Hyderabad, October 1997
7	S. K. Mishra(Pathak), R.P. Goel, S.Das, and P.Ramachandrarao	1996	SHS synthesis of Titanium Carbide	50 <sup>th</sup> ATM, IIM-NMD, Nov. 1996, New Delhi
6	. M.V.H.Rao, S. K. Mishra, B.K.Mathur, D. Bhattacharya and K.L.Chopra	1990	STM studies of YBCO film on MgO	DAE symposium on solid state physics, at BHU, 1990.
5	L.C.Pathak, S. K. Mishra, D.Bhattacharya and K.L.Chopra	1995	Pyrophoric synthesis of ultrafine ceramic powders	VI-AGM, MRSI, Feb. 1995, IIT Kharagpur
4.	L.C.Pathak, S. K. Mishra, D.Bhattacharya and K.L.Chopra	1995	Synthesis of single phase SrTiO <sub>3</sub> powder by coprecipitation process	VI-AGM, MRSI, Feb. 1995, IIT Kharagpur
3	S. K. Mishra, L.C.Pathak, and V.Rao	1995	Synthesis of sub-micrometre sized Barium ferrite powder by combustion process	VI-AGM, MRSI, Feb. 1995, IIT Kharagpur
2	. S. K. Mishra and V.Rao	1994	Effect of annealing on the magnetic properties of melt spun MM-Fe-B alloys	48th ATM, IIM-NMD, Nov. 1994, Visakhapatanam
1	D.Bhattacharya, L.C. Pathak,S. K. Mishra, D.Sen, G.Markandeyulu, S.K. Ghatak, T.K.Dey, P. Pramanik, K.L.Chopra, S. Bhattacharya and H.S.Maiti	1990	Fabrication and properties of superconducting tapes of Y-Ba-Cu-O prepared by doctor blade process	. Intl. Conf. On Supercond. IISC Bangalore, January, 1990