## **PUBLICATIONS 2008**

\* Faculty, students and project staff from the Department of Materials Engineering

Sl.No	Title	Name of the Author(s)	Name of the Journal/Conference	Vol	Page No	Year of Publication/ period of Conference
1.	Effect of aluminum on the hyperfine field and crystallization behaviour of NANOPERM alloy	Prabhu D*, Narayanasamy A, Chattopadhyay K*	HYPERFINE INTERACTIONS	183	7-15	APR 2008
2.	Proximity effect controlled superconducting behavior of novel biphasic Pb-Sn nanoparticles embedded in an Al matrix	Bose S, Bhattacharya V* Chattopadhyay K*, Pushan Ayyub	ACTA MATERIALIA	56	4522- 4528	SEP 2008
3.	Phase formation in Ti/Ni dissimilar welds	Chatterjee S*, Abinandanan TA*, Chattopadhyay K*	MATERIALS SCIENCE AND ENGINEERING A	490	7-15	AUG 2008
4.	Influence of thermodynamics and local geometry on glass formation in Zr based alloys	Ray PK, Chattopadhyay K*, Murty BS	APPLIED PHYSICS LETTERS	93	06190 3	AUG 2008
5.	Phase-field simulation of fusion interface events during solidification of dissimilar welds: Effect of composition in homogeneity	Chatterjee S*, Abinandanan TA*, Chattopadhyay K*	METALLURGICAL AND MATERIALS TRANSACTIONS A	39 A	1638- 1646	JUL 2008
6.	Formation of omega-Al7Cu2Fe phase during laser processing of quasicrystal-forming Al-Cu-Fe alloy	Biswas K, Chattopadhyay K*	PHILOSOPHICAL MAGAZINE LETTERS	88	219- 230	2008
7.	Porous Al2O3-Spinel Based Polycrystals That Resist Free- Sintering	Shah SR, Chokshi AH*, Raj R	JOURNAL OF THE AMERICAN CERAMIC SOCIETY	91	3451- 3454	OCT 2008
8.	Triple junction limited grain growth in nanomaterials	Chokshi AH*	SCRIPTA MATERIALIA	59	726- 729	OCT 2008
9.	Creep in scandia stabilized zirconia	Kilo M, Argirusis C, Borchardt G, Ghose S*, Chokshi A H*	SOLID STATE IONICS	179	804- 806	SEP 2008
10.	Diffusion creep in metals and ceramics: Extension to nanocrystals	Chokshi AH*	MATERIALS SCIENCE AND ENGINEERING A	483 - 484	485- 491	JUNE 2008
11.	Synthesis and characterization of Y3Al5O12 and ZrO2-Y2O3 thermal barrier coatings by combustion spray pyrolysis	Saravanan S*, Srinivas GH*, Jayaram V*, Paulraj M, Asokan S**  **Dept. of Instrumentation, IISc	SURFACE & COATINGS TECHNOLOGY	202	4653- 4659	JUN 2008
12.	Low-temperature Densification of Reactively Hot Pressed TiN-	Rangaraj L, Suresha S J**, Divakar C, Jayaram	J AM. CERAM. SOC.	39	1496- 1505	2008

	TiB2 Composites through excess Ti additions	V*  **Materials Research				
13.	Kinetics of pressureless infiltration of Al-Mg melts into porous alumina preforms	Center, IISc Patro D*, Jayaram V*	METALLURGICAL AND MATERIALS TRANSACTIONS B	39	108- 115	FEB 2008
14.	Sliding wear behavior of Al-Li- SiCp composites	Bauri R*, Surappa MK*	WEAR	265	1756- 1766	NOV 2008
15.	Nanoceramic-Metal Matrix Composites by In-Situ Pyrolysis of Organic Precursors in a Liquid Melt	Sudarshan M*, Surappa MK*, Dongjoon AHN, Rishi Raj	METALLURGICAL AND MATERIALS TRANSACTIONS A	39 A	3291- 3297	DEC 2008
16.	Synthesis of fly ash particle reinforced A356 Al composites and their characterization	Sudarshan*, Surappa MK*	MATERIALS SCIENCE AND ENGINEERING A	480	117- 124	MAY 2008
17.	Dry sliding wear of fly ash particle reinforced A356 Al composites	Sudarshan*, Surappa MK*	WEAR	265	349- 360	JUL 2008
18.	Interfacial and Matrix Modules studies by Dynamic Ultra Micro Hardness(DUH) indentation in Al-Li-SiC <sub>p</sub> composites	Bauri R*, Surappa MK*	INTERNAL JOURNAL OF MECHANICAL AND MATERIALS ENGG.	1	1-8	JUNE 2008
19.	Characterisation of seasonal local recharge using electrical resistivity tomography and magnetic resonance imaging	Desclloitres M, Ruiz L, Sekhar M**, Legchenko A, Braun JJ, Mohan Kumar**, Subramanian S*  **Dept. of Civil	HYDOLOGICAL PROCESSES	22	384- 394	2008
20.	Electron microprobe and mineralogical study on cobalt bearing sulphide from the Kalyadi copper mine, Hassan District, Karnataka	Engineering, IISc Thomas J, Riyazulla MS, Subramanian S*, Vasudev VN, Gundewar CS	J. GEOL. SOC. INDIA	71	257- 260	2008
21.	On the glass forming ability of liquid alloys	Waseda Y, Chen HS Jacob KT* Shibata H	SCIENCE AND TECHNOLOGY OF ADVANCED MATERIALS	9	02300	JUN 2008
22.	Gibbs energy of formation of MnO: Measurement and assessment	Jacob KT*, Kumar A* Waseda Y	JOURNAL OF PHASE EQUILIBRIA AND DIFFUSION	29	222- 230	JUN 2008
23.	Phase diagram for the system RuO2-TiO2 in air	Jacob KT*, Subramanian R*	JOURNAL OF PHASE EQUILIBRIA AND DIFFUSION	29	136- 140	APR 2008
24.	Thermodynamic properties and phase diagram for the system MoO2-TiO2	Jacob KT*, Shekhar C*, Waseda Y	JOURNAL OF THE AMERICAN CERAMIC SOCIETY	91	563- 568	FEB 2008
25.	Gibbs energy of formation of	Jacob KT, Shekhar C*,	ACTA	56	4798-	OCT 2008

	CaCu <sub>3</sub> Ti <sub>4</sub> O <sub>12</sub> and phase relations in the system CaO–CuO/Cu <sub>2</sub> O– TiO <sub>2</sub>	Li X, Kale GM	MATERIALIA		4803	
26.	Role of mineral specific bacterial proteins in selective flocculation and flotation	Patra P*, Natarajan KA*	INTERNATIONAL JOURNAL OF MINERAL PROCESSING	88	53-58	AUG 2008
27.	Microbially-induced separation of chalcopyrite and galena	Patra P*, Natarajan KA*	MINERALS ENGINEERING	21	691- 698	SEP 2008
28.	Biomineralization of manganese by Bacillus spp isolated from a marine biofilm	Sarvamangala H*, Gopal J, Muraleedharan P, George RP, Dayal RK, Natarajan KA*	MINERALS & METALLURGICAL PROCESSING	25	149- 155	AUG 2008
29.	Biomineralisation of manganese on titanium surfaces exposed to seawater	Gopal J, Muraleedharan P, Sarvamangala H*, George RP, Dayal RK, Tata VR, Khatak HS, Natarajan KA*	BIOFOULING	24	275- 282	JUL 2008
30.	Microbial aspects of acid mine drainage and its bioremediation	Natarajan KA*	TRANSACTIONS OF NONFERROUS METALS SOCIETY OF CHINA	18	1352- 1360	2008
31.	Glass forming ability: Miedema approach to (Zr, Ti, Hf)-(Cu, Ni) binary and ternary alloys	Basu J, Murty BS, Ranganathan S*	JOURNAL OF ALLOYS AND COMPOUNDS	465	163- 172	OCT 2008
32.	Parallelohedra and topological transitions in cellular structures	Ranganathan S*, Lord EA*	PHILOSOPHICAL MAGAZINE LETTERS	88	703- 713	2008
33.	On the effect of surface texture on friction and transfer layer formation-A study using Al and steel pair	Menezes PL*, Kishore*, Kailas SV**  **Dept. of Mech Eng, IISc	WEAR	265	1655- 1669	NOV 2008
34.	Effect of surface roughness parameters and surface texture on friction and transfer layer formation in tin-steel tribo- system	Menezes PL*, Kishore*, Kailas SV**  **Dept. of Mech Eng, IISc	JOURNAL OF MATERIALS PROCESSING TECHNOLOGY	208	372- 382	NOV 2008
35.	Mechanical and three-body abrasive wear behavior of SiC filled glass-epoxy composites	Suresha B**, Chandramohan G, Kishore*, Sampathkumaran P, Seetharamu  **Dept. of Mech Eng, IISc	POLYMER COMPOSITES	29	1020- 1025	SEP 2008
36.	Studies on friction in an iron- steel tribo-system under dry and lubricated conditions	Menezes PL*, Kishore*, Kailas SV**  **Dept. of Mech Eng, IISc	MATERIALS AND MANUFACTURING PROCESSES	23	698- 707	2008
37.	Role of surface texture and roughness parameters in friction and transfer layer formation under dry and lubricated sliding	Menezes PL*, Kishore*, Kailas SV** **Dept. of Mech Eng,	INTERNATIONAL JOURNAL OF MATERIALS RESEARCH	99	795- 807	JUL 2008

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38.	Influence of roughness parameters on coefficient of friction under lubricated conditions	Menezes PL*, Kishore*, Kailas SV**  **Dept. of Mech Eng, IISc	SADHANA- ACADEMY PROCEEDINGS IN ENGINEERING SCIENCES	33	181- 190	JUN 2008
39.	Subsurface deformation and the role of surface texture - A study with Cu pins and steel plates	Menezes PL*, Kishore*, Kailas SV**  **Dept. of Mech Eng, IISc	SADHANA- ACADEMY PROCEEDINGS IN ENGINEERING SCIENCES	33	191- 201	JUN 2008
40.	Processes-induced structural transformations and the impact properties of Cr-Mn iron systems	Sampathkumaran P, Ranganathaiah C, Seetharamu S, Kishore*	MATERIALS AND MANUFACTURING PROCESSES	23	320- 325	MAR-APR 2008
41.	Cure behavior of epoxy-cyanate ester blend in composite systems: Evaluation studies in neat resin cast by thermal and FTIR techniques	Sekhar KR, Kishore* Sankaran S	JOURNAL OF APPLIED POLYMER SCIENCE	109	2023- 2028	AUG 2008
42.	Influence of roughness parameters of harder surface on coefficient of friction and transfer layer formation	Menezes PL*, Kishore*, Kailas SV**  **Dept. of Mech Eng, IISc	INT. J. SURFACE SCIENCE & ENGINEERING	2	98- 119	2008
43.	Effect of Surface Topography on Friction and Transfer Layer during Sliding	Menezes PL*, Kishore*, Kailas SV**  **Dept. of Mech Eng, IISc	JAPANESE SOCIETY OF TRIOBOLOGISTS	3	25-30	2008
44.	Two-dimensional mathematical modeling of the pack carburizing process	Sarkar S, Gupta GS*	METALLURGICAL AND MATERIALS TRANSACTIONS A	39 A	2424- 2434	OCT 2008
45.	Behavior of granular material in packed bed under influence of gas injected through a nozzle	Singh V*, Gupta GS*	PARTICULATE SCIENCE AND TECHNOLOGY	26	214- 221	MAY-JUN 2008
46.	Modeling of gas flow inside and outside the nozzle used in spray deposition	Jeyakumar M*, Gupta GS*, Kumar S*	JOURNAL OF MATERIALS PROCESSING TECHNOLOGY	203	471- 479	JUL 2008
47.	Electrokinetic and Rheological Properties of Nano Zirconia in the Presence of Rhamnolipid Biosurfactant	Biswas M*, Raichur AM*	JOURNAL OF THE AMERICAN CERAMIC SOCIETY	91	3197- 3201	OCT 2008
48.	Biosurfactant mediated synthesis of NiO nanorods	Palanisamy P*, Raichur AM*	MATERIALS LETTERS	62	743	JUL 2008
49.	Abatement of fluoride from water using manganese dioxide-coated activated alumina	Tripathy SS*, Raichur AM*	JOURNAL OF HAZARDOUS MATERIALS	153	1043- 1051	MAY 2008
50.	Enhanced adsorption capacity of activated alumina by impregnation. with alum for removal of As(V) from water	Tripathy SS*, Raichur AM*	CHEMICAL ENGINEERING JOURNAL	138	179- 186	MAY 2008
51.	Dispersibility of barium titanate suspension in the presence of	Tripathy SS*, Raichur AM*	JOURNAL OF DISPERSION	29	230- 239	2008

	polyelectrolytes: A review		SCIENCE AND TECHNOLOGY			
52.	Effect of Poisson's ratio on crack tip fields and fracture behavior of metallic glasses	Tandaiya P**, Ramamurty U*, Ravichandran G, Narasimhan R**	ACTA MATERIALIA	56	6077- 6086	DEC 2008
		**Dept. of Mech Eng, IISc				
53.	Healing of fatigue damage in NiTi shape memory alloys	Wagner MFX, Nayan N, Ramamurty U*	JOURNAL OF PHYSICS D	41	185408	SEP 2008
54.	Structure and stacking faults in layered Mg-Zn-Y alloys: A first-principles study	Datta A*, Waghmare UV Ramamurty U*	ACTA MATERIALIA	56	2531- 2539	JUN 2008
55.	Influence of cooling rate on the enthalpy relaxation and fragility of a metallic glass	Raghavan R*, Murali P*, Ramamurty U*	METALLURGICAL AND MATERIALS TRANSACTIONS A	39 A	1573- 1577	JUL 2008
56.	Factors influencing deformation stability of binary glasses	Murali P*, Ramamurty U*, Shenoy VB **Dept. of Physics, IISc	JOURNAL OF CHEMICAL PHYSICS	128	10450 8	MAR 2008
57.	Aging response and its effect on the functional properties of Cu- Al-Ni shape memory alloys	Suresh N*, Ramamurty U	JOURNAL OF ALLOYS AND COMPOUNDS	449	113- 118	JAN 2008
58.	Mechanical characterization of NiTi SMA wires using a dynamic mechanical analyzer	Roy D*, Buravalla V, Mangalgiri PD, Allegavi S*, Ramamurty U*	MATERIALS SCIENCE AND ENGINEERING A	494	429- 435	OCT 2008
59.	Mechanical properties of tricalcium phosphate single crystals grown by molten salt synthesis	Viswanath B**, Raghavan R*, Gurao NP*, Ramamurty U*, Ravishankar N**  **Materials Research Centre, IISc	ACTA BIOMATERIALIA	4	1448- 1454	SEP 2008
60.	Temperature dependence of mechanical properties and pressure sensitivity in metallic glasses below glass transition	Keryvin V, Prasad KE*, Gueguen Y, Ramamurty U*	PHILOSOPHICAL MAGAZINE	88	1773- 1790	2008
61.	Tensile properties of Ni-based superalloy 720Li: Temperature and strain rate effects	Gopinath K*, Gogia AK, Kamat S, Ramamurty U*	METALLURGICAL AND MATERIALS TRANSACTIONS A	39 A	2340- 2350	OCT 2008
62.	Nano- and micro-indentation studies on lithium borate-barium bismuth niobate glasses	Das K*, Karthik C**, Varma KBR**, Ramamurty U*  **Materials Research Centre, IISc	JOURNAL OF NON- CRYSTALLINE SOLIDS	354	3793- 3798	AUG 2008
63.	Effect of shot peening on the fatigue life of a Zr-based bulk metallic glass	Raghavan R*, Ayer R, Jin HW, Ramamurty U*	SCRIPTA MATERIALIA	59	167- 170	JUL 2008
64.	Fatigue of a laterally constrained closed cell aluminum foam	Kolluri M*, Mukheriee M, Garcia-Moreno F, Ramamurty U*	ACTA MATERIALIA	56	1114- 1125	MAR 2008
65.	Unnotched fatigue behavior of an austenitic Ni–Ti shape	Nayan, N*, Roy, D*, Buravalla, V, Ramamurty	MATERIALS SCIENCE AND	497	333- 340	DEC 2008

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66.	Effect of laser surface treatment	Mondal AK *, Kumar S*,	SURFACE &	202	3187-	APR 2008
	on corrosion and wear resistance	Blawert C, Dahotre, NB.	COATINGS		3198	
67	of ACM720 Mg alloy	Mondal AK *, Kumar S*,	TECHNOLOGY	68	2051	DEC 2008
67.	Impression creep behaviour of magnesium alloy-based hybrid	Mondal AK *, Kumar S*,	COMPOSITES SCIENCE AND	68	3251- 3258	DEC 2008
	composites in the longitudinal		TECHNOLOGY		3236	
	direction		TECHNOLOGI			
68.	Ion-nitriding of maraging steel	Shetty K*, Kumar S*,	JOURNAL OF	100	062013	2008
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69.	Elucidation of bifurcation of the	Ghosh C*, Paul A*	INTERMETALLICS	16	955- 961	AUG 2008
	Kirkendall marker plane in a single phase using physico-				901	
	chemical approach					
70.	Analysis of texture evolution in	Beausir B, Suwas S*,	ACTA	56	200-	JAN 2008
	magnesium during equal channel	Toth LS, Neale K W,	MATERIALIA		214	
	angular extrusion	Fundenberger JJ				
71.	On microstructure and texture	Grosdidier T,	SCRIPTA	59	1087-	NOV 2008
	heterogeneities in single crystals	Fundenberger JJ, Goran D	MATERIALIA		1090	
	deformed by equal channel angular extrusion	Suwas S*				
72.	Evolution of hot rolling texture	Dey SR, Suwas S*,	MATERIALS	483	551-	2008
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73.	Temporal evolution of capped	Kalasad MN, Rabinal MK	SEMICONDUCTOR	23	.0450	APR 2008
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74.	Onset of spontaneous	Ranjan R *, Garg R*,	PHYSICAL	78	09210	SEP 2008
,	electrostrictive strain below 520	Hackl R, Senyshyn A,	REVIEW B	, 0	2	2000
	K in Pr-doped SrTiO3	Schmidbauer E, Trots D,				
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75.	Evidence for polaron	Gopalan EV, Malini KA	JOURNAL OF	41	18500	SEP 2008
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76.	Effect of meditation on scaling	Sarkar A*, Barat P	FRACTALS-	16	199-	SEP 2008
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77.	Grain size and grain boundary	Raju KS, Krishna MG,	MATERIALS	491	1-7	SEP 2008
	character distribution in ultra-	Padmanabhan KA, Gurao	SCIENCE AND		- ,	
	fine grained (ECAP) nickel	NP*	ENGINEERING A			
78.	Friction tensor concept for	Simha KRY**, Pottirayil	SADHANA-	33	203-	JUN 2008
	textured surfaces	A, Menezes PL*	ACADEMY		206	
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	MoS2 coating in the presence of additives using reciprocating ball-on-flat scratch tester	PL*, Simha KRY**, Kailas SV**  **Dept. of Mech. Eng, IISc	ACADEMY PROCEEDINGS IN ENGINEERING SCIENCES		220	
80.	Role of Surface Texture on Friction under Boundary Lubricated Conditions	Menezes PL*, Kailas SV**, Pradeepkumar C **Dept. of Mech. Eng, IISc	JAPANESE SOCIETY OF TRIOBOLIGISTS	3	12-18	2008
81.	Mechanisms of creep deformation in polycrystalline Ni-base disk superalloys	Unocic RR, Viswanathan GB, Sarosi PM, Karthikeyan S*, Li J, Mills MJ	MATERIALS SCIENCE AND ENGINEERING A	483	25- 32	JUN 2008
82.	Constitutive equation for elevated temperature flow behavior of plain carbon steels using dimensional analysis	Phaniraj MP, Lahiri AK*	MATERIALS & DESIGN	29	734- 738	2008

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1	V. Singh and G.S. Gupta: Modelling of single phase, non-wetting liquid flow in a coarse bed, SCANMET III, Sweden Lulea, 8-11 June, 2008, p561-567.
2	S. Mondal and G.S. Gupta: Fluid dynamics study of a new vacuum degassing process, CHEMECA-08, Sept. 27-30, New Castle, Australia, 2008, p786-95.
3	N Maruoka, F Lazuardi, T Maeyama, H Nogami, S Kitamura and G S Gupta, Influence of bottom stirring conditions on surface reaction rate, SCANMET III, Sweden Lulea, 8-11 June, 2008, p449-458.
4	N.K. Mulley and G.S. Gupta: Study of fluid dynamics in a packed bed in the presence of fines and liquid flow, Int. Conf. on Recent Progress on Mathematical Modelling in Ironmaking-2008, Tokyo, Japan, Oct. 16-17, 2008, p50-55.
5	Partha Patra, K.A.Natarajan, 'Synthesis of Mineral-specific Bioproteins for Selective Mineral Flotation', Proceedings of XXIV International Mineral Processing Congress, Beijing (IMPC-2008)
6	M N Chandraprabha, K.A.Natarajan, 'Biomudulation of Sulfide Minerals for Environment-friendly Beneficiation', Proceedings of XXIV International Mineral Processing Congress, Beijing (IMPC-2008)
7	K.A.Natarajan, S.N.Ambika, 'Biological aspects of ARSENIC Speciation and Remediation', Hydrometallurgy-2008 (SME)
8	P. Venkatesulu, M. Joy Thomas and A. M. Raichur, 2008, "Accelerated multistress aging of outdoor polymeric insulators," Proceedings of the IEEE conference on Electrical Insulation Dielectric Phenomena (CEIDP-2008), Quebec City, Canada, pp. 67-70.
9	K. S. Raja, M. Misra, A. M. Raichur and A. Kar, "Development of a novel biocompatible hydroxyapatite coated nanotubular titania for implant application," Proceedings of the 32nd International Conference on Advanced Ceramics and Composites, Daytona, January 26 – February 1, 2008 (Invited paper)pp 227-238
10	Chokshi A H, 'Microstructural stability and creep in nanocrystals' 4th International Conference on Nanomaterials by Severe Plastic Deformation, AUG 18-22, 2008 Goslar, GERMANY, pp 876-883
11	Suwas S, Biswas S, Singh S, Chattopadhyay K, 'Texture and grain boundary character distribution during Equal Channel Angular Extrusion of some two-phase copper alloys', 4th International Conference on Nanomaterials by Severe Plastic Deformation, AUG 18-22, 2008 Goslar, GERMANY, pp 585-590
12	Biswas S, Satyaveer SD, Bhowmik A, Suwas S, 'Study of texture evolution of Pure Magnesium during ECAE using EBSD', 4th International Conference on Nanomaterials by Severe Plastic Deformation, AUG 18-22, 2008 Goslar, GERMANY, pp343-348
13	G. Rajesh, S. Subramanian, Anju M. Pillay, A. Rajendra and A.K. Sharma, 'Studies on the effect of surfactants on the dispersion stability of PTFE suspension for Ni-PTFE composite coatings for space applications', Proceedings of the 24th Annual In-House Symposium on Space Science and Technology, January 2008, Bangalore, pp 99-104
14	E. Chockalingam, S. Subramanian and J. J. Braun, 'Bioremediation of acid mine water using rice husk and tree bark', Proceedings of the XXIV International Mineral Processing Congress, 2008, Beijing, China, pp 3842-3853