

RESEARCH PUBLICATIONS

1. **A microstructural characterisation of deformation and precipitation in (W,Ti)C**
S.L.Shinde, **V.Jayaram** and R.Sinclair
in " The science of hard metals ", R.K.Viswanadham, D.J.Rowcliffe and J.Gurland (ed.),
Plenum, 1983
2. **A TEM study of intergranular cracking in WC-Co**
V.Jayaram
Proc. 40th Annual Conference of EMSA, 632 (1982).
3. **Intergranular cracking in WC- 6% Co: an application of the von Mises criterion**
V.Jayaram, R.Sinclair and D.J.Rowcliffe
Acta Metall. 31, 373 (1983)
4. **Detection of thin intergranular cobalt layers in WC-Co by lattice imaging**
V.Jayaram and R.Sinclair
J Am. Ceram. Soc. 66, 137 (1983)
5. **Deformation enhanced decarburisation of WC-Co**
V.Jayaram, R.Sinclair and D.J.Rowcliffe
Scripta Metall. 20, 55 (1986)
6. **Plastic deformation of WC-Co at high confining pressure**
V.Jayaram, A.Kronenberg, S.H.Kirby, R.Sinclair and D.J.Rowcliffe
Scripta Metall. 20, 701 (1986)
7. **Microstructural and chemical components of the fracture energy of ceramic- metal interfaces**
R.M.Cannon, **V.Jayaram**, B.J.Dalgleish and R.M.Fisher
Proc. MRS Symposium on Electronic Packaging and Materials Science, Palo Alto, 54-799 (1986)
8. **Fracture energy of ceramic- metal interfaces**
R.M.Cannon, **V.Jayaram**, B.J.Dalgleish and R.M.Fisher
Proc.Conf. Ceramic Microstructures, " The role of Interfaces ", Berkeley, 21 (1986)
9. **Plastic incompatibility and crack nucleation during deformation on four independent slip systems in tungsten carbide - cobalt**
V.Jayaram
Acta Metall. 35, 1307 (1987)
10. **The precipitation of α -TiO₂ from supersaturated solutions of Ti in alumina: precipitate structure and morphology**
V.Jayaram

- Phil. Mag. A 57, 525 (1988)
11. **A model for compressive deformation and fracture in WC-Co**
D.J.Rowcliffe, **V.Jayaram**, M.K.Hibbs and R.Sinclair
Mater. Sci. Engg. A 105/ 106, 299 (1988)
 12. **Some observations of microstructural changes in alumina induced by Ti inhomogeneities**
V.Jayaram, B.J.Dalgleish and A.G.Evans
J Mater. Res. 3, 764 (1988)
 13. **Phase selection in electrohydrodynamically atomised alumina**
C.G.Levi, **V.Jayaram**, J.J.Valencia and R.Mehrabian
J. Mater. Res. 3, 969 (1988)
 14. **Rapid solidification of ceramic eutectic and hypoeutectic alloys- alumina, zirconia**
T.Whitney, **V.Jayaram**, C.G.Levi and R.Mehrabian
in D.M.Stefanescu, G.J.Abbaschian and R.J.Bayuzick (eds.), " Solidification Processing of Eutectic Alloys ", Metallurgical Society of AIME, 199 (1988)
 15. **Comment on " Number of active slip systems in polycrystalline brass: implications for ductility in other structures" by R.Fleischer**
V.Jayaram
Scripta Metall. 22, 741 (1988)
 16. **The structure of δ -alumina evolved from the melt and the γ - δ transformation**
V.Jayaram and C.G.Levi
Acta Metall. 37, 569 (1989)
 17. **Characterization of alumina-zirconia produced by electrohydrodynamic atomisation**
V.Jayaram, C.G.Levi, T.Whitney and R.Mehrabian
Mater. Sci. Engg. A 214, 65 (1990)
 18. **Nucleation and growth of $\text{Al}_2\text{O}_3/\text{Al}$ composites by oxidation of aluminium alloys**
O.Salas, H.Ni, **V.Jayaram**, K.C.Vlach, C.G.Levi and R.Mehrabian
J. Mater. Res. 6, 1964 (1991)
 19. **A thermogravimetric study of the oxidative growth of Al_2O_3 -Al alloy composites**
K.C.Vlach, O.Salas, H.Ni, **V.Jayaram**, C.G.Levi and R.Mehrabian
J Mater. Res. 6, 1982 (1991)
 20. **Ceramic composites by directed melt oxidation**
V.Jayaram
in New Materials, (eds.) S.K.Joshi, C.N.R.Rao, T.Tsuruta and S. Nagakura, Narosa Publishing House, New Delhi (1992)

21. **Banded microstructures in Al₂O₃ / Al composites produced by oxidation of molten Al-Mg alloys**
O.Salas, **V.Jayaram**, K.C.Vlach, C.G.Levi and R.Mehrabian
Symposium on Processing and Manufacturing of Advanced Materials for High Temperature Applications III, (eds.) V.A.Ravi and T.S.Srivatsan, The Minerals, Metals and Materials Society, Warrendale, 143 (1992)
22. **Ceramic composites by melt oxidation**
V.Jayaram
Materials Engg. 3, 247 (1992)
23. **Directed melt oxidation and infiltration**
V.Jayaram
Metals, Materials and Processes 4, 51 (1992)
24. **MMC, CMC and microstructural gradients by nitridation of aluminium alloys**
V.Jayaram, B.S.S.Daniel, N.Nagendra and H.R.Muralidhar
Trans. Mater. Res. Soc. - Japan, 14A, 621-624 (1993)
25. **Metastable extension of the fluorite phase field in Y₂O₃ - ZrO₂ and its effect on grain growth**
V.Jayaram, M. de Graef and C.G.Levi
Acta Metall. Mater. 42, 1829 (1994)
26. **Growth and microstructure of Al₂O₃-SiC-Si (Al) composites prepared by reactive infiltration of silicon carbide preforms**
S.P.Dhandapani, **V.Jayaram** and M.K.Surappa
Acta Metall. Mater. 42, 649 (1994)
27. **Early stages of composite formation by oxidation of liquid aluminium alloys**
O.Salas, **V.Jayaram**, K.C.Vlach, C.G.Levi and R.Mehrabian
J Am. Ceram. Soc. 78, 609 (1995)
28. **Development of nano-composite microstructures in Al₂O₃-ZrO₂ via the solution precursor method**
M-L. Balmer, F.F.Lange, **V.Jayaram** and C.G.Levi
J Am. Ceram. Soc. 78, 1489 (1995)
29. **Growth of Al₂O₃/Al composites from Al-Zn alloys**
M.Hanabe, **V.Jayaram** and T.A.Bhaskaran
Acta Metall. Mater. 44, 819 (1996)
30. **Synthesis and characterization of metastable ceramic oxides**
V.Jayaram
in " Advances in Physical Metallurgy ", (eds.) S.Banerjee and R.V.Ramanujan, Gordon and Breach Inc. Pennsylvania, 455 (1996)

31. **Microstructural control and wear of Al₂O₃-SiC-(Al,Si) composites made by melt oxidation**
V.Jayaram, R.Manna, M.G.Kshetrapal, J.Sarkar and S.K.Biswas
J Am. Ceram. Soc. 79, 770 (1996)
32. **The role of volatile solute elements in directed melt oxidation of Al-alloys**
V.Jayaram
J. Mater. Sci. 31, 4591 (1996)
33. **Containerless processing of ceramics by aerodynamic levitation**
A.S.Gandhi, A.Saravanan and V.Jayaram
Mater. Sci. Engg. A 221, 68 (1996)
34. **Microstructure and mechanical properties of Al₂O₃ (Al/AlN) composites fabricated by pressureless infiltration of Al alloys**
N.Nagendra and V.Jayaram
in " Advances in Composites ",(eds.) E.S.Dwarakadasa and C.G.K.Nair, Allied Publishers, Bangalore, 111 (1996)
35. **Infiltration of Al₂O₃-Al composites into coated silicon carbide**
V.Jayaram, S.Kumar, T.V.Mani, M.S.M.Saifullah, J.Sarkar and K.G.K.Warrier
in " Inorganic Matrix Composites " (ed) M.K.Surappa, The Minerals, Metals and Materials Society, Warrendale, 193 (1996)
36. **Phase evolution and densification in spray-pyrolysed ZrO₂ - Al₂O₃ powders**
A.S.Gandhi, V.Jayaram and A.H.Chokshi
Materials Science Forum 243-245, " Superplasticity in Advanced Materials, 227 (1997)
37. **Sliding wear of Al₂O₃-SiC-Al,Si composites against steel counterface**
A.Ravikiran, V.Jayaram and S.K.Biswas
J Am. Ceram. Soc. 80, 219 (1997)
38. **Degradation of Al₂O₃-SiC-Al composites prepared by the oxidative growth of Al alloys into SiC particulate**
Sandeep Kumar and V.Jayaram
J Mater. Sci. 32, 4719 (1997)
39. **Effect of liquid precursor pyrolysis on phase selection in the MgO-MgAl₂O₄ system**
T.Bhatia, K.Chattopadhyay and V.Jayaram
Mater. Sci. Engg. A 226-228, 930 (1997)
40. **Nanostructures and amorphous materials by decomposition of precursors**
V.Jayaram
Multi-Facets of Metallurgy: Emerging Trends, Annual Technical Meeting, The Indian Institute of Metals, A Chatterjee (ed.), The Indian Institute of Metals, 165-176 (1997)

41. **Coarsening of an interconnected microstructure in an Al-Al₂O₃ composite**
P.Padmapriya, T.A.Abinandan and **V.Jayaram**
Scripta Mater. 37, 1883 (1997)
42. **Nano-dispersed microstructures on laser mixing of Al-Ni multilayers**
D.Srinivasan, **V.Jayaram** and K.Chattopadhyay
Scripta Mater. 38, 857 (1998)
43. **Dense nanometric ZrO₂-Al₂O₃ from spray pyrolysed powders**
V.Jayaram, R.S.Mishra, B.Majumdar, C.Lesher and A.K.Mukherjee
Colloids and Surfaces A 133, 25 (1998)
44. **Analysis of micro-residual stresses in 6H-SiC particles within Al₂O₃-SiC-(Al,Si) using Raman spectroscopy**
R.Arvind Singh, A.K.Sood, **V.Jayaram** and S.K.Biswas
Scripta Mater. 38, 617 (1998)
45. **A study on the formability of melt-spun Fe-Nd-B magnets**
S.P.Narayan, K.Basu, Y.V.R.K.Prasad, **V.Jayaram** and B.N.Das
Scripta Mater. 38, 1725 (1998)
46. **The initiation and continuation of infiltration of Al-Mg based alloys into alumina preforms**
B.S.Rao and **V.Jayaram**
Proc. 3rd Pacific Rim International Conference on Advanced Materials and Processing, (eds.) M.A.Imam, R.DeNale, S.hanada, Z.Zhong and D.N.Lee, The Minerals, Metals and Materials Society, Warrendale, 367 (1998)
47. **A study of the deformation behaviour of nano-crystalline Fe-Nd-B magnets**
S.Prakash Narayan, K.Basu, Y.V.R.K.Prasad and **V.Jayaram**
Proc. 3rd Pacific Rim International Conference on Advanced Materials and Processing, (eds.) M.A.Imam, R.DeNale, S.hanada, Z.Zhong and D.N.Lee, The Minerals, Metals and Materials Society, Warrendale, 905 (1998)
48. **Zirconia based nanomaterials: elaboration, characterisation and transport properties**
H.Bousetta, A.Rouanet, F.Sibieude, A.Amdouni-Cheikh, A.Madani, C.Roucau, E.Snoeck, N.Brun, C.Georgescu, D.Lelievre, R.R.Piticescu, C.P.Carry, S.Begin-Colin, A.S.Gandhi and **V.Jayaram**
Inzynieria Materialowa (Poland)(1998)
49. **Studies on the deformation behavior of nano-crystalline Nd-Fe-B magnets**
Prakash-Narayan-S; Basu-K; **Jayaram-V**; Prasad-YVRK; Das-BN

Rare-Earth Magnets and their Applications. Proceedings of the Fifteenth International Workshop. Werkstoff-Infortionsgesellschaft GmbH, Frankfurt, Germany, L. Schultz and K.-H.Mueller (ed.). 349-358 (1998)

50. **The synthesis of wurtzite based solid solutions of ZnO-CoO by spray pyrolysis**
V.Jayaram, J.Rajkumar and B.Sirisha Rani
J Am. Ceram. Soc. 82, 473-476 (1999)
51. **Abrasion of Al₂O₃-SiC-(Al,Si) composites made by melt oxidation**
R.Arvind Singh, **V.Jayaram** and S.K.Biswas
J Mater. Res. 14, 64-67 (1999)
52. **A dislocation pile-up model for the yield stress of a composite**
V.Jayaram, N.N.Viswanathan and T.A.Abinandan
Acta Mater. 47, 1635-1643 (1999)
53. **Densification studies on amorphous ZrO₂ - Al₂O₃ powders**
A.S.Gandhi, **V.Jayaram** and A.H.Chokshi
Proc. Symp. on Creep Behaviour of Advanced Materials for the 21st Century, The Minerals, Metals and Materials Society, Warrendale, USA, 369-378 (1999).
54. **ZrO₂-Al₂O₃ nanocomposite by high pressure sintering of spray pyrolysed powders**
R.S.Mishra, **V.Jayaram**, B.Majumdar, C.E.Lesher and A.K.Mukherjee
J Mater. Res. 14, 834-840 (1999)
55. **Wear of melt oxidised alumina matrix composites**
V.Jayaram and S.K.Biswas
Wear 225-229, 1322-1326 (1999)
56. **Microstructures and properties of Al₂O₃ / Al-AlN composites by pressureless infiltration of Al-alloys**
N.Nagendra, B.S.Rao and **V.Jayaram**
Mater. Sci. Engg. A269, 26-37 (1999)
57. **Dense amorphous zirconia-alumina by low temperature consolidation of spray pyrolysed powders**
A.S.Gandhi, **V.Jayaram** and A.H.Chokshi
J Am. Ceram. Soc 82, 2613-2618 (1999)
58. **Segregation in the MgO-MgAl₂O₄ system prepared from nitrate precursors**
T.Bhatia, K.Chattopadhyay and **V.Jayaram**
J Mater. Res. 14, 3319-3327 (1999)
59. **Fracture and R-curves in Al₂O₃ / Al-AlN composites**
N.Nagendra and **V.Jayaram**
J Mater. Res. 15, 1131-1144 (2000)

60. **Influence of matrix characteristics on fracture toughness of high volume fraction $\text{Al}_2\text{O}_3/\text{Al-AlN}$ composites**
N.Nagendra and **V.Jayaram**
J Mater. Res. 15, 1145-1153 (2000)
61. **Directed Melt Oxidation**
V.Jayaram and D.Brandon
in " Handbook of Ceramic Hard Materials " (ed.) R.Riedel, Wiley, 289-321 (2000).
62. **Soft chemical routes to the synthesis of extended solid solutions of wurtzite ZnO - MO ($\text{M}=\text{Mg},\text{Co},\text{Ni}$)**
Vikram Jayaram and B. Sirisha Rani
Mater. Sci. Engg. A304-306, 800-804 (2001)
63. **Low temperature densification behaviour of metastable phases in zirconia - alumina powders produced by spray pyrolysis**
A. S. Gandhi, **V.Jayaram** and A. H. Chokshi
Mater. Sci. Engg. A304-306, 785-789 (2001).
64. **Non-equilibrium phase synthesis in $\text{Al}_2\text{O}_3 - \text{Y}_2\text{O}_3$ by spray pyrolysis of nitrate precursors**
C. K. Ullal, K. R. Balasubramanian, A. S. Gandhi and **V. Jayaram**
Acta Materialia 49, 2691-2699 (2001)
65. **Pressureless infiltration of Al-Mg based alloys into alumina preforms: mechanisms and phenomenology**
B. S. Rao and **V. Jayaram**
Acta Materialia 49, 2373-2385 (2001)
66. **Effect of rapid solidification on microstructural evolution in $\text{MgO} - \text{MgAl}_2\text{O}_4$**
Tania Bhatia, Kamano Chattopadhyay and **Vikram Jayaram**
J. Am. Ceram. Soc. 84, 1873-80 (2001)
67. **A new technique for pressureless infiltration of aluminium alloys into alumina preforms**
B. S. Rao and **V. Jayaram**
J. Mater. Res, 16 (10), 2906-2913 (2001)
68. **Al-SiC electronic packages with controlled thermal expansion coefficient by a new method of pressureless infiltration**
C. Hemambar, B. S. Rao and **V. Jayaram**
Journal of Materials and Manufacturing Processes 16 (6), 779-788 (2001)
69. **The production of AlN-rich matrix composites by the reactive infiltration of Al alloys in nitrogen**

- S. Swaminathan, B. S. Rao and **V. Jayaram**
Acta Materialia 50 (12), 3093-3104 (2002)
70. **The influence of oxygen impurities on the formation of AlN-Al composites by infiltration of molten Al-Mg**
S. Swaminathan, B. Srinivasa Rao and **V. Jayaram**
Mater. Sci. Engg. A337, 134-139 (2002)
71. **Pressure consolidation of amorphous ZrO₂ - 40 % Al₂O₃ by plastic deformation**
A. S. Gandhi and **V. Jayaram**
Acta Materialia 50, 2137-2149 (2002)
72. **The need to productionise Metal Matrix Composites for Space Microwave Application in India**
A V Pathak, K J Patel, Ch Hemamber and Vikram Jayaram
ISAMPE National Conference 2002, (INCCOM-1) 93-99 (2002)
73. **Bulk, Dense, Nanocrystalline Yttrium Aluminum Garnet by Consolidation of Amorphous Powders at Low Temperatures and High Pressures**
Samrat Choudhury, Ashutosh S. Gandhi, and **V. Jayaram**
J. Am. Ceram. Soc. 86.(2), 247-251 (2003)
74. **Non-viscous, Plastic Flow in a Glass of Zirconium Oxide – Aluminium Oxide**
A.S. Gandhi* and **V. Jayaram**
Acta Materialia 51(6)1641-1649 (2003)
75. **Contact Damage in TiN Coatings on Steel**
S. Bhowmick, A. N. Kale *, **V. Jayaram** and S. K. Biswas⁺
Thin Solid Films 436, 250-258 (2003)
76. **Oxide films by combustion pyrolysis of solution precursors**
R. Kavitha, S. Hegde and **V. Jayaram**
Mater. Sci. Eng. A 359 (1-2) 18-23 (2003)
77. **The nature of contact deformation of TiN films on steel**
S. Bhowmick¹, Z.-H Xie², M. Hoffman², V. Jayaram¹ and S. K. Biswas³
J. Mater. Res. 19(9) 2616-2624, 2004.
78. **Low temperature reactive hot pressing of TiB₂ - TiN composites**
L. Rangaraj, C. Divakar and Vikram Jayaram
J. Am. Ceram. Soc. 87(10), 1872-1878 (2004)
79. **Deconvolution of Fracture Property from Load-Displacement Curves of TiN films on Steels**
S. Bhowmick, V. Jayaram and S. K. Biswas

Acta Mater. 53, 2459-2467 (2005)

80. **Mechanical properties of rough TiN coating deposited on steel by cathodic arc evaporation technique**
R. Gunda, S. Bhowmick, V. Jayaram and S. K. Biswas
J. Am. Ceram. Soc. 88(7) 1831 – 1837 (2005)
81. **Fracture mode transitions during indentation of TiN coatings on steel**
S. Bhowmick, Z.-H Xie, M. Hoffman, V. Jayaram and S. K. Biswas
Phil. Mag. (A) 85(25), 2927-2945 (2005)
82. **Low temperature pressure consolidation of amorphous Al₂O₃-Y₂O₃**
N. Thangamani, A.S.Gandhi, V.Jayaram and A.H.Chokshi
J. Am. Ceram. Soc. 88 (10), 2696-2701 (2005)
83. **Spherical indentation of a film / substrate system: Part 1. Experimental validation of elastic stresses and strains derived using Hankel transform technique**
S. Math, V. Jayaram and S. K. Biswas
J Mater. Res. 21(3), 775-782 (2006)
84. **Spherical indentation of a film / substrate system: Part 2. A comparative assessment of the influence of film thickness and substrate deformation on crack driving forces in columnar coatings.**
S. Math, V. Jayaram and S. K. Biswas
J Mater. Res. 21(3), 783-790 (2006)
85. **Contact deformation of TiN coatings on metallic substrates**
V. Jayaram^{a*}, S. Bhowmick^a, Z.-H Xie^b, S Math^c, M. Hoffman^b, and S. K. Biswas^c
Mater. Sci. Engg. (A) 423 (1-2), 8-13 (2006).
86. **Al/SiC carriers for microwave integrated circuits by a new technique of pressureless infiltration**
B. Srinivasa Rao, C. Hemambar, A. V. Pathak, K. J. Patel, J. Rödel and V. Jayaram
IEEE Transactions on Electronics Packaging Manufacturing 29(1), 58-63 (2006)
87. **Validation of stresses and stress intensity factors in a notched bi-layer system under four point bending as determined by the solution of Navier's equation**
Sibasish Mukherjee, V. Jayaram and S. K. Biswas
Int. J. Mech. Sci. 48(11), 1287-1294 (2006)
88. **Deposition and characterisation of alumina films produced by combustion flame pyrolysis**
R. Kavitha and V. Jayaram
Surf. Coat. Tech. 201 (6), 2491-2499 (2006)

89. **Indentation of a hard film on a compliant substrate: film fracture mechanisms to accommodate substrate plasticity**
S. Math, S. J. Suresha, V. Jayaram and S. K. Biswas
J. Mater. Sci. 41 (23), 7830-7837 Dec (2006)
90. **Processing, microstructure and hardness of (TiN/(Ti,Al)N) multi-layer coatings**
S. J. Suresha^a, R. Bhide^b, V. Jayaram^a and S. K. Biswas^a
Mater. Sci. Engg. A429 252-260 (2006)
91. **Crack growth resistance (R-curve) behaviour and thermo-physical properties of Al₂O₃ particle reinforced AlN/Al matrix composites**
B. S. Rao, J. Roedel and V. Jayaram
Composites Part A: Applied Science and Manufacturing, 38 (3), 2007, Pages 1038-1050
92. **A general contact mechanical formulation of multilayered structures and its application to deconvolute thickness/mechanical properties of glue used in Surface Force Apparatus**
Souvik Math, Roger Horn, Vikram Jayaram, Sanjay Kumar Biswas
Journal of Colloid and Interface Science, 308 (2), 551-561 (2007)
93. **Ultra mild wear in lubricated tribology of an aluminium alloy**
Sarmistha Das, Varalakshmi K., V. Jayaram and S.K. Biswas
ASME Journal of Tribology, 129, 942-951 (2007)
94. **Toughening through multi-layering in TiN-AlTiN films**
S. J. Suresha, Souvik Math, V. Jayaram and S. K. Biswas
Phil. Mag. A 87 (17), 2521-2539 (2007)
95. **Flow in porous ceramics: understanding with non-uniform capillary models**
D. Patro and V. Jayaram
J. Am. Ceram. Soc. 90(10), 3040-3046 (2007)
96. **Synthesis of Bulk, Dense, Nanocrystalline Yttrium Aluminum Garnet from co-precipitated powders**
Pathikumar Sellappan, Vikram Jayaram^{*}, Atul H. Chokshi and Canchi Divakar
J. Am. Ceram. Soc. 90(11) 3638-3641 (2007).
97. **Synthesis of titania films by combustion flame spray pyrolysis technique and its characterization for photocatalysis zinc oxide films made by combustion pyrolysis**
R. Kavitha, S. Meghani and V. Jayaram
Mater. Sci. Engg. B 139, 134-140, (2007)
98. **Band gap engineering in ZnO-MgO films prepared by combustion spray pyrolysis**
R. Kavitha and V. Jayaram
Journal of Electronic Materials, 36(10), 1326-1332 (2007)

99. **Effect of residual stress on the load-displacement response of columnar TiN films on steel**
S. J. Suresha, R. Gunda, V. Jayaram and S. K. Biswas
J. Mater. Res 22(12) 3501-3506 (2008)
100. **Kinetics of pressureless infiltration of Al-Mg melts into porous alumina preforms**
Debdutt Patro and V. Jayaram
Metall. Mater. Trans. B 39(1), 108-115 (2008)
101. **In-situ synthesis and densification of ZrB₂-ZrC composites by reactive hot pressing**
L. Rangaraj, C. Divakar and V. Jayaram
Metall. Mater. Trans. A39, 1496-1505 (2008)
102. **Synthesis and Characterization of Y₃Al₅O₁₂ and Y₂O₃ - ZrO₂ Coatings by Combustion Spray Pyrolysis**
S. Saravanan, G Hari Srinivas, V Jayaram ,M Paulraj and S Asokan
Surf. Coat. Tech. 202, 4653-4659 (2008)
- 103.. **Implantation induced hardening of nanocrystalline Ti films**
T. Krishnan, S. Amrithapandian, G. mangamma, T. Tamaseshan, S. Dash, A. K. Tyagi, V. Jayaram and Baldev Raj
J Nanoscience & Nanotech. 9, 1-6 (2009)
104. **Low-temperature Densification of Reactively Hot Pressed TiN-TiB₂ Composites through excess Ti additions**
Lingappa Rangaraj¹, Canchi Divakar¹ and Vikram Jayaram^{3#}
J Am. Ceram. Soc. 92, 311-317 (2009)
105. **Processing of Refractory metal Borides, Carbides and Nitrides**
Lingappa Rangaraj, Canchi Divakar and Vikram Jayaram
"Key Engineering Materials" 395, 69-88 (2009)
106. **Internal nitide formation during gas phase thermal nitridation of titanium**
P.K.Ajikumar, M.Kamruddin, P.Shankar, R.Gunda, A.K.Balamurugan, R.Nithya, A.K.Tyagi, V.Jayara,m, S.K.Biswas and Baldev Raj
Scripta Mater. 61, 403-406 (2009)
107. **Deposition of ZnO Films by Combustion Flame Pyrolysis of Solution Precursors**
Ranganathan Kavitha, Vikram Jayaram
Int. J App. Ceram. Tech. Published Online: Mar 9 2009 12:28PM
DOI: 10.1111/j.1744-7402.2009.02357.x

108. **Nanometer scale indentation plasticity studied in KBr studied by indentation and atomic force microscopy**
Praveena M., Tobin Filleter, V. Jayaram, S.K.Biswas and R. Bennewitz
Materials Research Society Symposium Vol. 1185, 2009
109. **Reactive Hot Pressing of Zirconium diboride-based Ultrahigh Temperature Ceramic Composites**
Lingappa Rangaraj¹, Canchi Divakar¹ and Vikram Jayaram^{2*#}
J. Eur. Ceram. Soc. (in press)
110. **Study of fracture behavior of bond coats on nickel superalloy by three point bending of microbeams.**
Prashant Potnis¹, Jennifer Holtzinger¹, Dipak Das ² Vikram Jayaram¹, S K Biswas³
Surf. Coat. Tech. (in press)
111. **Mechanism of failure in a free standing in a Pt-aluminide bond coat during tensile testing at room temperature**
Md. Zafir Alam, B. Srivathsa, S.V.Kamat, V.Jayaram, N.Hazari and D.K.Das
Mater. Sci. Engg. A (in press)
112. **Reactive Pulsed Laser Deposition of Titanium Nitride Thin Film: Optimization of Process Parameters Using Secondary Ion Mass Spectrometry**
R. Krishnan, S. Dash, A.K.Tyagi, V.Jayaram and Baldev Raj, Appl. Surf. Sci. (in press)
113. **Synthesis and Densification of Monolithic Zirconium Carbide by Reactive Hot Pressing**
Chidambaram Nachiappan, Lingappa Rangaraj, Canchi Divakar and Vikram Jayaram
J Am. Ceram. Soc. (in press)
114. **Pressure and thermally induced stages of wear in dry sliding of a steel ball against an Al-Si alloy flat**
Anirban Mahato, Thomas A. Perry, Vikram Jayaram and Sanjay K. Biswas
Wear (in press)
115. **Reactive hot pressing of ZrB₂-ZrC_x ultra-high temperature ceramic composites with the addition of SiC particulate**
Lingappa Rangaraj, Canchi Divakar and Vikram Jayaram
J. Eur. Ceram. Soc. (in press)
116. **Evaluation of Ductile-Brittle-Transition-Temperature (DBTT) of Aluminide Bond Coats by Micro-tensile Test Method"**
Md. Zafir Alam, B. Srivathsa, S.V.Kamat, V.Jayaram, N.Hazari and D.K.Das
Mater. Sci. Engg. A (in press)
117. **Effect of Phases on the Frictional Properties of Electroless Ni-B Nano-Composite Coating**

Soupitak Pal, Vikram Jayaram, Sanjay Kumar Biswas and Yancy.Riddle
Proc. CIMTEC 2010, Montecatini, Italy (in press)