

Sridhar Seetharaman

Publications

1. C. Thorning and S. Sridhar: "The Role of Grain Boundary Diffusion in Initial Selective Oxidation Kinetics of a Manganese-Aluminum TRIP Steel", 26 (5), *Journal of Phase Equilibria and Diffusion*, pp. 539-546, 2005
2. G.S. Shannon, M.E. Valdez and S. Sridhar: "The Ability of Slags to Absorb Inclusions", Accepted in *ISIJ International*, 2006
3. E. Schmidt, Y. Wang and S. Sridhar: "A Study of Non-Isothermal Austenite Formation and Decomposition in Fe-C-Mn Alloys", Accepted in *Met. And Mat. Trans. A*, 2005
4. G.N. Shannon and S. Sridhar: "Modeling of Al₂O₃ inclusions across steel/slag interfaces", *Scandinavian Journal of Metallurgy*, 2005, 34, pp. 353-362
5. N. McDonald and S. Sridhar: "Observations and analysis of peritectic reaction in the Fe-Co system", *Z. Metallkunde*, 2005, 96, pp. 304-310
6. B. Sauerhammer, D. Senk, E. Schmidt, M. Safi, S. Spiegel and S. Sridhar: "Effect of liquid phase on scale formation during high temperature oxidation of AISI-TRIP steel surfaces", *Met. And Mat. Trans. B*, 2005, 36B (4), pp. 503-512
7. R. E. Aune, M. Hayashi and S. Sridhar: "Thermodynamic approach to physical properties of silicate melts", *Ironmaking and Steelmaking*, 2005, 32 (2), pp. 141-149
8. G.N. Shannon and S. Sridhar: "Film-drainage, separation and dissolution of Al₂O₃ inclusions at steel/interfaces" *High Temperature Materials and Processes*, 2005, 24 (2), pp. 111
9. Y. Wang and S. Sridhar: "The effect of gas flow rate on the evolution of the surface oxide on a molten low carbon Al killed steel", *J. Materials Science*, 2005, 40 (9-10), 2179-2184
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12. D. Senk, S. Sridhar, M. Safi, N. McDonald and M. Krings: "Oxidation and Characterization of As-Cast TRIP Steel Surfaces", *Steel Research International*, 2004, 75 (10), pp. 680-685
13. A. Bharadwaj, V.S. Arunachalam, S. Sridhar and Y. Wang: "Pyrolysis of Rice Husk: An experimental Study", *Current Science*, 2004, 87 (7) pp. 981-986
14. N.J. McDonald and S. Sridhar "Observations of the Advancing δ -Ferrite/ γ -Austenite/Liquid Interface During the Peritectic Reaction", 2004, *J. Materials Science*, 2005, 40 (9-10), 2411-2416
15. M. E. Valdez, Y. Wang and S. Sridhar: "In-Situ Observation of the Formation of MnS during Solidification of High Sulfur Steels", 2003, *Steel Research International*, 2004, 75 (4), pp. 247-256

16. R.E. Aune, M. Hayashi and S. Sridhar: "A thermodynamic approach to physical properties of silicate melts", 2003, *High Temperature Materials and Processes*, 22 (4), pp. 369-378
17. S. Sridhar and A.W. Cramb: "Properties of Slags and Their Importance in Manufacturing Clean Steels", 2003, *High Temperature Materials and Processes*, 22 (4), pp. 275-282
18. M. Krauss, R.E. Aune and S. Sridhar: Slag splashing on BOF refractory linings, 2003, *Steel Grips*, 2004, *Steel Grips*, 2 (1), pp. 33-39
19. A. B. Fox, M. E. Valdez, J. Gisby, R. C. Atwood, P. D. Lee, S. Sridhar: "Dissolution of ZrO_2 , Al_2O_3 , MgO and $MgAl_2O_4$ Particles in a B_2O_3 Containing Commercial Fluoride-Free Mould Slag", 2003, *ISIJ International*, (2004), 44 (5), pp. 836-845
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21. Y. Wang, S. Sridhar, A.W. Cramb, A. Gomez and C. Cicutti: "Reoxidation of low-carbon aluminum-killed Steel", *AIST Transactions*, 2004, 2, pp. 87-96
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1. E. Schmidt and S. Sridhar: "Direct observation of austenite formation and decomposition in 4118 and 4320 steels", *Solid-to-Solid Phase Transformations in Inorganic Materials 2005*, May

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2. G.N. Shannon and S. Sridhar: "Separation of Al_2O_3 inclusions across interfaces between molten steel and ladle-, tundish- and mold slags", EPD Congress 2005, TMS Annual Meeting, San Francisco, CA, Edited by M.E. Schlesinger, Published by TMS, Warrendale, PA
 3. G. N. Shannon and S. Sridhar: "Separation of Al_2O_3 inclusions across interfaces between molten steel and ladle-, tundish-and mold slags", Proceedings of the Metal Separation Technologies III;, Copper Mountain, Colorado, June 20, 2004 a symposium in honor of Professor Lauri E. Holappa, EF conference, Copper Mountain, June 2004, Editors in Chief: R.E. Aune and M. Kekkonen, pp. 259-268
 4. N.J. McDonald and S. Sridhar: "The peritectic reaction in Fe-Co alloys", Proceedings of Solidification Processes and Microstructures, A Symposium in Honor of Wilfred Kurz, Edited by: M. Rappaz, C. Beckermann, R. Trivedi, March 14-18, 2004, Charlotte, NC, TMS, Warrendale, PA, pp. 233-238
 5. S. Sridhar and A.W. Cramb: "Direct visualization of phenomena related to steel casting and solidification", Proceedings of Solidification Processes and Microstructures, A Symposium in Honor of Wilfred Kurz, Edited by: M. Rappaz, C. Beckermann, R. Trivedi, March 14-18, 2004, Charlotte, NC, TMS, Warrendale, PA, pp. 139-144
 6. Y. Wang, C. Thorning, S. Sridhar, D.M. Haezebrouck and T. Simpson: "Surface Oxide Evolution on Cold Rolled C-Mn-Si-Al TRIP Steels", published in the Proceedings of the International Conference on Advanced High Strength Sheet Steel for Automotive Applications", June 2004, Golden Colorado, AIST, Warrendale, PA
 7. G. Shannon, Y. Wang, S. Vantilt, B. Coletti, B. Blanpain and S. Sridhar: "Observation of behavior of oxide inclusions at molten slag/steel interfaces", Proceedings of the VII International Conference on Molten Slags, Fluxes and Salts, January 2004, Cape Town (SA), The South African Institute of Mining and Metallurgy Symposium Series S36, Johannesburg (SA), pp. 571-576
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 11. S. Sridhar and A.W. Cramb: "Properties of Slags and Their Importance in Manufacturing Clean Steels", *Proceedings of the Mills Symposium, Metals, Slags, Glasses: High Temperature Properties & Phenomena*, Volume I, August (2002), London (UK), The Institute of Materials

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15. K. C. Mills, A.B. Fox, P. D. Lee, S. Sridhar, "Modeling mold powder behavior in the continuous casting mold", *Proc. ICS 2001, 2nd International Congress on the Science & Technology of Steelmaking*, 2001. Swansea, Wales, Institute of Materials, pp. 445 – 456
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Other Papers in Symposium or Conference Proceedings

1. E. Schmidt and S. Sridhar: "Direct Observations of Austenite Formation and Decomposition in 4118 and 4320 Steels", Symposium on Long Bar Products, TMS Fall Meeting, September 2005, Pittsburgh (PA), TMS, Warrendale (PA)
2. C. Thorning and S. Sridhar: "Oxide Scale Formation on TRIP Steel Surfaces", AIST Tech, May 2005, Charlotte, NC, 2005, AIST, Warrendale (PA)
3. S. Sridhar: "Application of Confocal Scanning Laser Microscopy to Steel Research", The 3rd International Congress on the Science and Technology of Steelmaking, Charlotte, NC, May 2005, AIST, Warrendale (PA)
4. M. E. Valdez, H. Shibata, S. Sridhar and A.W. Cramb: "The Solidification Rate of Undercooled Pure Iron", Proceedings of the Continuous Casting Fundamentals Conference, Materials Science & Technology 2004, September 26-29, 2004, New Orleans, Louisiana, published by TMS, Warrendale (PA)

5. N. McDonald and S. Sridhar: "The Effect of Phase Diagram Information on Modeling Peritectic Reaction Rates", Proceedings of the Continuous Casting Fundamentals Conference, Materials Science & Technology 2004, September 26-29, 2004, New Orleans, Louisiana, published by TMS, Warrendale (PA)
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11. Alistair B Fox, Kenneth C Mills, S Sridhar and Peter D. Lee: "Mold Powder Estimation Models for Continuous Casting": *Proceedings of the 85th Steelmaking Conference*, Nashville, Tennessee, (2002), ISS, Warrendale (PA)
12. Y. Wan, M. Valdez and S. Sridhar: "Behavior of liquid and solid inclusions at advancing cellular fronts during the solidification of steel", *Proceedings of the Electric Arc Furnace Conference*, Phoenix, Arizona (2001), ISS, Warrendale (PA)
13. Gerogiorgis, Dimitrios I., Sridhar S. Seetharaman and B. Erik Ydstie, "Thermophysical Property Modeling for Multicomponent Molten Slags at High Temperatures" *Proceedings of the 3rd Panhellenic Chemical Engineering Conference*, NTUA, Athens, Greece, June 2001
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18. S. Sridhar and U.B. Pal, "Evaluation of the thermodynamics and kinetics of catalytic steam reforming over SOFC anode materials", *Proceedings of the 1995 EPRI/GRI Fuel Cell Workshop*.

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1. S. Sridhar and A.W. Cramb: "Recent advances in solidification", Elsevier Science and Technology
2. S. Sridhar: "Physical properties relevant for continuous casting", The Making, Shaping and Treating of Steel", AISE (Handbook for Steelmaking).
3. H.Y. Sohn and S. Sridhar: "High Temperature Processes", Chapter 2 in "Fundamentals of Metallurgy", published 2005 by Woodhead Publishing, Cambridge, UK, pp. 3-37
4. S. Sridhar and H.Y. Sohn: "Kinetics of Metallurgical Reactions", Chapter 9 in "Fundamentals of Metallurgy", published 2005 by Woodhead Publishing, Cambridge, UK, pp. 270-349

Sridhar Seetharaman - Presentations

Seminars

1. "Porosity formation during Al-casting", Lehigh University, Department of Materials Science and Engineering (1999)
2. "Indentation of piezoelectric ceramics", Rutgers University, Department of Ceramics, (1999)
3. "High temperature metals processing", Carnegie Mellon University, (2000)
4. "In-situ observation in liquid metals processing", 11/10/2000 *Colloquium Series*, Indiana University of Pennsylvania, Department of Physics, (2000)
5. "Production of Clean Metals", *Undergraduate Materials Seminar*, Carnegie Mellon University, (2000)
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7. "Steel cleanliness issues related to oxide inclusions", 9/24/2001 *Oxygen in Steelmaking: Towards Cleaner Steels*, Institute of Materials, London, UK (2001)
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11. "The Evolution of Inclusions during Steelmaking and Casting", 7/16/2002, *Unterausschuss für physikalische Chemie*, VDEh, Düsseldorf, Germany
12. "The Evolution of Inclusions and Steel Microstructures during Steelmaking and Casting", 10/29/2002 Ispat-Inland Steel, Research Center, In, USA
13. "Direct Visualization of Metallurgical Phenomena", University of Alabama, Department of Metallurgical and Materials Engineering, 10/24/2003
14. "Metallurgical Reactions and Transformations", NUCOR, Berkeley, SC, 05/22/2005
15. "Ongoing and Future Research at CISR", Arcelor Research Center, Metz, France, 01/16/06
16. "Dynamic Issues Related to Inclusion Generation, Evolution and Control", KTH, Dept. of Materials Science and Engineering, Stockholm, Sweden, 01/14/06