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EDUCATION

Country	Univertsity	Department	Field	Degree	Time
Germany	Universitaet Stuttgart	Max-Planck Insitute für Metallforschung	Inorganic Chemisty & Computational Thermodynamics	Dr.Rer.Nat	2007
Turkey	Istanbul Technical University	Faculty of Science & Technology	Metallurgical & Materials Engineering	M.Eng.	2002
Turkey	Istanbul Technical University	Faculty of Chemistry & Metallurgy	Metallurgical Engineering	B.Eng.	1999

ACADEMIC / PROFESSIONAL EXPERIENCE

Institution	Country	City	Department	Occupation	Time
Istanbul Technical University	Turkey	Istanbul	Dept. Metallurgical & Materials Engineering	Asst.Prof.	2007-
Istanbul Technical University	Turkey	Istanbul	Dept. Metallurgical & Materials Engineering	Senior Teaching Assistant	2007
Max-Planck Institute fur Metallfoschung	Germany	Stuttgart	Materials Synthesis and Microstructure Design	Ph.D. Scholar	2003-2007
Istanbul Technical University	Turkey	Istanbul	Dept. Metallurgical & Materials Engineering	Teaching Assistant	2000-2007

RESEARCH FIELDS

Experimental and Computational Thermodynamics, CALPHAD, Phase Equilibria and Phase Transformation, Iron & Steel Metallurgy, Thermal Analysis.

AWARDS

Name	Institution	Time
Ph.D. Scholarship	<u>International Max-Planck Research School for Advanced Materials</u>	2003-2007

PUBLICATIONS

Peer Reviewed Articles

1. M. Çelikbilek, A.E. Ersundu, N. Solak, S. Aydın, "Investigation on thermal and microstructural characterization of the TeO₂-WO₃ system" *Journal of Alloys and Compounds, In Press, Corrected Proof, Available online 26 February 2011*
2. M. Çelikbilek, A.E. Ersundu, N. Solak, S. Aydın, "Crystallization kinetics of the tungsten-tellurite glasses" *Journal of Non-Crystalline Solids, 357, 1, 88-95 (2011)*
3. A.E. Ersundu, G. Karaduman, M. Çelikbilek, N. Solak, S. Aydın, "Effect of rare-earth dopants on the thermal behavior of tungsten-tellurite glasses" *Journal of Alloys and Compounds, 508, 2, 266-272 (2010)*
4. A.E. Ersundu, G. Karaduman, M. Çelikbilek, N. Solak, S. Aydın, "Stability of the δ -TeO₂ phase in the binary and ternary TeO₂ glasses" *Journal of the European Ceramic Society, 30, 15, 3087-3092 (2010)*
5. M. Zinkevich, N. Solak, H. Nitsche, M. Ahrens, F. Aldinger, "Stability and Thermodynamic Functions of Lanthanum Nickelates" *J. Alloys and Comp., 438: 92-99, (2007).*
6. B. Hallstedt, N. Dupin, M. Hillert, L. Hoglund, H.L. Lukas, J. C. Schuster, N. Solak, "Thermodynamic Models for Crystalline Phases. Composition Dependent Models for Volume, Bulk Modulus and Thermal Expansion", *CALPHAD - Computer Coupling of Phase Diagrams and Thermochemistry, Calphad, 31: 28-37, (2007).*
7. N. Solak, M. Zinkevich, F. Aldinger, "Compatibility of La₂NiO₄ Cathodes with LaGaO₃ Electrolytes: A Computational Approach" *Solid State Ionics, 177: 2139-2142, (2006).*
8. N. Solak, M. Zinkevich, F. Aldinger, "Reactivity in the systems LaGaO₃/Ni and CeO₂/Ni", *Fuel Cells, 2: 87-92, (2006).*
9. N. Solak, F. Üstel, M. Ürgen, S. Aydın, A. F. Çakır., "Oxidation Behaviors of Molybdenum Nitride Coatings" *Surface and Coatings Technology, 174-175: 713-719, (2003).*

Book Chapters

1. J. Gröbner, S. Delsante, N. Solak, V. Tomashik, "The Calcium- Iron - Oxygen System" in *Landolt-Boernstein, Numerical Data and Functional Relationships in Science and*

- Technology (New Series), Physical Chemistry. *"Iron Systems. Phase Diagrams, Crystallographic and Thermodynamic Data"*, Vol. IV/11D2, 513-553, Eds. G.Effenberg, S.Ilyenko, Springer-Verlag, Berlin, Heidelberg. ISBN 978-3-540-74193-0 (2008).
2. N. Solak, *"The Silver - Indium - Antimony System"* in Landolt-Boernstein, Numerical Data and Functional Relationships in Science and Technology (New Series), Physical Chemistry. *"Ternary Alloy Systems. Phase Diagrams, Crystallographic and Thermodynamic Data"*, Vol. IV/11C3, 86-95, Eds. G.Effenberg, S.Ilyenko, Springer-Verlag, Berlin, Heidelberg. ISBN 978-3-540-25777-6 (2007).
 3. R. Schmid-Fetzer, L. Rokhlin, E. Lysova, N. Solak, *"The Arsenic – Gallium – Phosphorus System"* in Landolt-Boernstein, Numerical Data and Functional Relationships in Science and Technology (New Series), Physical Chemistry., *"Ternary Alloy Systems. Phase Diagrams, Crystallographic and Thermodynamic Data"*, Vol. IV/11C1, 209-226, Eds. G.Effenberg, S.Ilyenko, Springer-Verlag, Berlin, Heidelberg. ISBN 978-3-540-25773-8 (2006).
 4. K. Ishida, Q. Ran, N. Solak, *"The Aluminium - Phosphorus - Antimony System"* in Landolt-Boernstein, Numerical Data and Functional Relationships in Science and Technology (New Series), Physical Chemistry. *"Ternary Alloy Systems. Phase Diagrams, Crystallographic and Thermodynamic Data"*, Vol. IV/11C1, 154-158, Eds. G.Effenberg, S.Ilyenko, Springer-Verlag, Berlin, Heidelberg. ISBN 978-3-540-25773-8 (2006).
 5. N. Saunders, L. Rokhlin, E. Lysova, N. Solak, *"The Aluminium – Niobium – Nickel System"* in Landolt-Boernstein, Numerical Data and Functional Relationships in Science and Technology (New Series), Physical Chemistry. *"Ternary Alloy Systems. Phase Diagrams, Crystallographic and Thermodynamic Data"*, Vol. IV/11/D1, Eds. G.Effenberg, S.Ilyenko, Springer-Verlag, Berlin, Heidelberg. (In Press)

Conference Contributions

Fulltext

1. N.Solak, F. Üstel, S. Aydın, M. Ürgen, A.F. Çakır, *"Comparison of Oxidation Behavior of Nitride Based Hard Ceramic Thin Film Coatings Using Thermal Analysis Techniques"* 2006 TMS Fall Extraction & Processing Meeting: Sohn Int'l Symposium, August 27-31, 2006 San Diego, California. (Keynote Lecture)
2. N. Solak, M. Zinkevich, F. Aldinger, *"Reactivity in the systems LaGaO₃/Ni and CeO₂/Ni"* 6th European Solid Oxide Fuel Cell Forum, 28 June – 2 July 2004, Proceedings Book, pp.1476-1485, Lucerne, Switzerland.
3. M. Zinkevich, S. Geupel, N. Solak, F. Aldinger, *"Phase Diagrams and Thermodynamic Properties of Materials for Intermediate Temperature Solid Oxide Fuel Cells"* 6th European Solid Oxide Fuel Cell Forum, 28 June – 2 July 2004, Proceedings Book, pp.75-84 Lucerne, Switzerland.
4. N. Solak, F. Üstel, O. L. Eryilmaz, M. Urgan, S. Aydın A. F. Çakır. *"Effect of Low Concentration Boron Addition on Oxidation Behaviors of TiN Coatings"* XI. International

Abstract

5. E. Ersundu, M. Çelikbilek, G. Karaduman, N. Solak, S. Aydın, " *Experimental Phase Studies in the $TeO_2 - WO_3$ System*" TMS 2009 Annual Meeting & Exhibition, San Francisco, California, U.S.A, (2009)
6. M. Çelikbilek, G. Karaduman, A. E. Ersundu, D. Tatar, N. Solak, S. Aydın, " *Microstructural and Thermal Characterization of the $TeO_2 - WO_3$ System*" 11th International Conference and Exhibition of the European Ceramic Society, 21-25 June 2009, Krakow, Poland.
7. A. Arabaci, S. Kirtay, N. Solak, " *Characterization of Thermal Decomposition Products of Cerium Acetate by High Temperature FTIR Spectroscopy*" 11th International Conference and Exhibition of the European Ceramic Society, 21-25 June 2009, Krakow, Poland.
8. B. Alkan, M. M. Dokur, N. Solak, M. Urgan, G. Goller, " *Thermal properties of carbon fiber reinforced polymeric matrix composites produced by spray-up process*" 11th International Conference and Exhibition of the European Ceramic Society, 21-25 June 2009, Krakow, Poland.
9. G. Karaduman, M. Çelikbilek, A. E. Ersundu, D. Tatar, N. Solak, S. Aydın, " *Experimental Phase Studies in the $TeO_2 - CdO$ System*" 11th International Conference and Exhibition of the European Ceramic Society, 21-25 June 2009, Krakow, Poland.
10. E. Ersundu, N. Solak, S. Aydın, " *The Investigation of Domestic Iron Ores for Sponge Iron Production*" TMS 2008 Annual Meeting & Exhibition, New Orleans, Louisiana, U.S.A, (2008).
11. N. Solak, M. Zinkevich, F. Aldinger, " *Phase Diagram Studies in the Systems $CeO_2-Gd_2O_3-MO$ ($M = Sr, Ni$)*" 12th International Union of Pure and Applied Chemistry Conference on High Temperature Materials Chemistry, 18-22 Sept, 2006, Vienna, Austria.
12. N. Solak, M. Zinkevich, F. Aldinger, " *Compatibility of La_2NiO_4 Cathodes with $LaGaO_3$ Electrolytes: A Computational Approach*", International Conference on Solid State Ionics, 17-22 July 2005, Baden-Baden.
13. N. Solak, M. Zinkevich, S. Geupel, D. Djurovic, F. Aldinger, " *Ceramic Materials for Intermediate-Temperatures Solid Oxide Fuel Cells - A Thermodynamic Approach*" DGM – DKG, Symposium Hochleistungskeramik, 12-13 Oct. 2005, Selb.
14. M. Zinkevich, N. Solak, S. Geupel, F. Aldinger, " *Crystal Chemistry and Thermodynamics of Compounds and Solid Solution in the System $(La,Sr)(Ga,Mg,Ni)O_{3-x}$* " International Conference on Perovskites - Properties and Potential Applications, 5-8 Sept. 2005, Dübendorf, Switzerland.
15. M. Zinkevich, D. Djurovic, N. Solak, S. Boskovic, F. Aldinger, " *Phase Diagrams and Thermodynamics of CeO_2 -based materials for SOFC*" The Fuel Cells Science & Technology 2004, Scientific Advances in Fuel Cell Systems – Elsevier. 6-7 Oct. 2004, Munich, Germany.
16. N. Solak, M. Zinkevich, H. Nitsche, F. Aldinger, " *Computational and Experimental Phase Studies in the $La-Ga-Ni-O$ system*" Junior- Euromat 2004, 6-9 Sept. 2004, Lausanne, Switzerland.
17. M. Zinkevich, S. Geupel, N. Solak, F. Aldinger, " *Development of the Thermodynamic Database for the System $La-Sr-Ga-Mg-Ni-O$* " CALPHAD XXXIII, 30 May – 4 June 2004, Krakow, Poland.
18. N. Solak, F. Ustel, M. Urgan, S. Aydın " *Oxidation Behaviours of Molybdenum Nitride Coatings*" 8. International Conf. Plasma Surf. Eng. 9-13 Sept. 2002 Garmish –Partenkirchen, Germany.

National Conference Contributions

1. N. Solak, S. Aydın "Demir Karbür Üretimi ve Elektrik Ark fırınlarında Kullanımı" 1. Ulusal Demir Çelik Kongresi ve Sempozyumu, Bildiriler Kitabı, 861-865, 3-5 Ekim 2001.
2. A.E. Ersundu, N. Solak, S. Aydın "Elektrik Ark Fırınında Kullanılan Hurdaya Alternatif Hammaddeler" 4. Ulusal Demir Çelik Kongresi, Bildiriler Kitabı, 69-73, 1-3 Kasım 2007.