

William T. Reynolds Jr.

Professional Experience:

Professor (Aug. 2000 – present)
Department of Materials Science and Engineering, Virginia Tech
Visiting Professor (August 1996 – August 1997)
National Institute for Materials Science
1-2-1 Sengen, Tsukuba-shi, Ibaraki 305, Japan
Associate Professor (Aug. 1994 – Aug. 2000)
Assistant Professor (Dec. 1988 – Aug. 1994)

Education: B.S. (1981), M.S. (1982), and Ph.D. (1988) in
Metallurgical Engineering and Materials Science,
Carnegie Mellon University, Pittsburgh, PA.

Research Interests:

Physical metallurgy, a field that forms the basis for understanding the properties and performance of metals. Mechanisms of phase transformations, which are often used to control the physical and mechanical properties of a variety of engineering materials. The structure of internal boundaries, the morphology of phases, and the kinetics of transformations. Theoretical aspects of the work involve mathematical modeling of transport processes, interfacial energy, and elastic strain. Primary experimental techniques include transmission electron microscopy, scanning electron microscopy, optical microscopy and field-ion microscopy/atom probe.

Instruction:

Engineering Exploration (an introductory freshmen engineering course)
Elements of Materials Engineering
Physical Metallurgy and an associated lab course
Metals and Alloys
Senior Design Project (undergraduate capstone course)
Solid–Solid Phase Transformations (graduate course)
Mathematical Methods in Materials Research (graduate course)
Effects of Elastic Stress on Phase Transformations (graduate course)
Magnetic Materials (graduate independent study)
Transmission Electron Microscopy (graduate independent study)
Introduction to Materials Science I & II (interdisciplinary graduate courses)

Professional Memberships and Activities:

TMS–AIME (served on Student Affairs Committee)
ASM International (Chaired Joint–ASM/TMS
Phase Transformations Committee)
Chair of the Board of Review, Metallurgical and Materials Transactions

Foundry Educational Foundation, Virginia Tech Key Professor
American Foundry Society
Sigma Xi
Past Chair of the Graduate Committee, MSE Department
Director of the Nanoscale Characterization and Fabrication Laboratory
at Virginia Tech, a university-wide analytical equipment facility

Symposia:

- Co-organizer (with J. K. Lee, K. C. Russell, M. Enomoto, M. Rigsbee, and B. B. Rath) of a symposium entitled “Atomistic Mechanisms of Nucleation and Growth in Solids,” held during TMS/ASM Materials Week, October 3-5, 1994 in Rosemont, IL.
- Co-organizer (with E. Buddy Damm, David Matlock, Matt Merwin, Gary Purdy, and Eric M. Taleff) of a symposium entitled “Austenite Formation and Decomposition,” held during the Materials Science & Technology Meeting, November 9-12, 2003 in Chicago, IL.
- Co-organizer (with R. Ramanujan, M. Willard, and D. Laughlin) of a symposium entitled “Phase Transformations in Magnetic Materials” held during the TMS Annual Meeting, March 12-16, 2006 in San Antonio TX.
- Co-organizer (with M. Enomoto) of a symposium entitled “Solid-State Nucleation and Critical Nuclei during First Order Diffusional Phase Transformations” held during the Materials Science & Technology Meeting, October 15-19, 2006 in Cincinnati, OH.

Publication List: (in reverse chronological order)

68. S. Harutyunyan, W. T. Reynolds Jr., and D. J. Hasanyan, “Magneto-Elastic Interactions in a Cracked Ferromagnetic Body,” *Acta Materialia*, in press.
67. Kathy Lu, M. K. Mahapatra, K. Lu, W. T. Reynolds Jr., “Thermophysical Properties and Devitrification of SrO-La₂O₃-Al₂O₃-B₂O₃-SiO₂ Based Glass Sealant for Solid Oxide Fuel/Electrolyzer Cells,” *Journal of Power Sources*, **179**, (1): 106–112, 2008.
66. W. T. Reynolds Jr., “On the Mechanism of the Bainite Reaction,” in the Proceedings of a the First International Symposium on Steel Science (IS3-2007), held May 16-19, 2007, Kyoto, Japan, The Iron and Steel Institute of Japan, 2007.
65. T. M. Heil, M. A. Willard, and W. T. Reynolds, Jr., “The Effects of Composition and Aging on the Martensite and Magnetic Transformations in Ni-Fe-Ga Ferromagnetic Shape Memory Alloys,” *Metall. Mater. Trans*, **38A**, (4): 752–758, 2007.
64. H. I. Aaronson, W. T. Reynolds, Jr., and G. R. Purdy, “The Incomplete Transformation Phenomenon in Steel,” *Metall. Mater. Trans*, **37A**, (6): 1731–1745, 2006.

63. W. T. Reynolds, Jr. and D. Farkas, "Edge-To-Edge Interfaces in Ti-Al Modeled with the Embedded Atom Method," *Metall. Mater. Trans*, **37A**, (3A): 865–871, 2006.
62. B. C. Muddle, H. I. Aaronson, P. M. Kelly, G. R. Srinivasan, D. E. Laughlin, W. T. Reynolds, M. Braun, G. Purdy, W. Z. Zhang, J. M. Howe, M. X. Zhang, W. A. Soffa, M. I. Baskes, V. K. Vasudevan, C. DeTavernier, T. Furuhashi, M. Hillert, R. C. Pond, G. J. Shiflet, "General Discussion Session of the 2004 Hume-Rothery Symposium on 'The Structure and Diffusional Growth Mechanisms of Irrational Interphase Boundaries'," transcript published in *Metall. Mater. Trans*, **37A**, (3A): 961–974, 2006.
61. P. Li., J. M. Howe, and W. T. Reynolds, Jr., "Atomic Structure of a $\{110\}$ Zr/ZrN Interface," *Metall. Mater. Trans*, **37A**, (3A): 895–900, 2006.
60. P. Li, J. M. Howe, and W. T. Reynolds, Jr., "Investigation of the Structure and Composition of a $\{111\}$ Incoherent Zr/ZrN Interface Containing Ledges by HRTEM, Image Simulation, EELS, EFTEM, and NCS analysis," *Metall. Mater. Trans*, **37A**, (3A): 879–893, 2006.
59. H. I. Aaronson, T. Furuhashi, M. G. Hall, J. P. Hirth, J. F. Nie, G. R. Purdy, and W. T. Reynolds Jr., "On the Mechanism of Formation of Diffusional Plate-Shaped Transformation Products," *Acta Materialia*, **54**, 1227–1232, 2006.
58. Todd M. Heil, William T. Reynolds Jr., Matthew A. Willard, Matthew R. Sullivan, Mark D. Huntington, and Harsh Deep Chopra, "Effects of Annealing on the Martensite and Magnetic Transformations in a Ni-Fe-Ga Ferromagnetic Shape Memory Alloy," pp. 221–226 in the Proceedings of a Conference on *Solid-Solid Phase Transformations in Inorganic Materials 2005*, ed. James M. Howe, David E. Laughlin, Jong K. Lee, Ulrich Dahmen, and William A. Soffa, TMS, Warrendale, PA, 2005.
57. P. Li, J.M. Howe, W. T. Reynolds Jr, "Atomic Structure of Zr/ZrN Incoherent Interfaces," pp. 421–426 in the Proceedings of a Conference on *Solid-Solid Phase Transformations in Inorganic Materials 2005*, ed. James M. Howe, David E. Laughlin, Jong K. Lee, Ulrich Dahmen, and William A. Soffa, TMS, Warrendale, PA, 2005.
56. G. Chen, G. Spanos, R. Masumura, and W. T. Reynolds Jr., "Effects of Ledge Density on the Morphology and Growth Kinetics of Precipitates in a Ni–Cr Alloy," *Acta Materialia*, **53/4**, 895–906, 2005.
55. James M. Howe, William T. Reynolds Jr., and Vijay K. Vasudevan, "Atomic Structure and Dynamics of Massive Transformation Interfaces in TiAl Alloy," *Zeitschrift für Metallkunde*, **95**, (4): 275–278, 2004.
54. E. S. Humphreys, H. A. Fletcher, J. D. Hutchins, A. J. Garratt-Reed, W. T. Reynolds, Jr., H. I. Aaronson, G. R. Purdy, and G. D. W. Smith, "Molybdenum Accumulation at Ferrite:Austenite Interfaces during Isothermal Transformation of an Fe-0.24 Pct C-0.93 Pct Mo Alloy," *Metall. Mater. Trans*, **35A**, (4): 1223–1235, 2004.
53. H. I. Aaronson, W. T. Reynolds, Jr., and G. R. Purdy, "Coupled-Solute Drag Effects on Ferrite Formation in Fe-C-X Systems," *Metall. Mater. Trans*, **35A**, (4): 1187–1210, 2004.

52. P. Li, J. M. Howe, and W. T. Reynolds, Jr., "Atomic Structure of a $\{1\ 1\ 1\}$ Incoherent Interface in Zr-N Alloy," *Acta Materialia*, **52**, (1): 239–248, 2004.
51. R. W. Fonda, M. V. Kral, and W. T. Reynolds Jr., "The Interfacial Structure of Widmanstätten Cementite Laths," pp. 425–436 in *Austenite Formation and Decomposition*, E. Buddy Damm and Matthew J. Merwin, ed., the Iron and Steel Society (ISS) and the Minerals, Metals, and Materials Society (TMS), Warrendale, PA 2003.
50. W. T. Reynolds Jr., H. I. Aaronson, and H. Goldenstein, "Two Problems in Ledgewise Growth of Ferrite Requiring Further Advanced Experimental Techniques for Their Solution," pp. 333–337 in *Austenite Formation and Decomposition*, E. Buddy Damm and Matthew J. Merwin, ed., the Iron and Steel Society (ISS) and the Minerals, Metals, and Materials Society (TMS), Warrendale, PA 2003.
49. W. T. Reynolds Jr., J. F. Nie, W.-Z. Zhang, J. M. Howe, H. I. Aaronson, G. R. Purdy, "Atomic Structure of High-Index $\alpha_2 : \gamma_m$ Boundaries in a Ti-46.54 at.%Al Alloy," *Scripta Materialia*, **49**, (5): 405-409, 2003.
48. H. I. Aaronson, G. Spanos, and W. T. Reynolds Jr., "A Progress Report on the Definitions of Bainite," *Scripta Materialia*, **47**, (3): 139–144, 2002.
47. James M. Howe, William T. Reynolds Jr., and Vijay K. Vasudevan, "Static and In-Situ HRTEM Investigations of the Atomic Structure and Dynamics of Massive Transformation Interfaces in a TiAl Alloy," *Metall. Mater. Trans.*, **33A**, (8): 2391–2411, 2002.
46. H. A. Fletcher, A. J. Garratt-Reed, H. I. Aaronson, G. R. Purdy, W. T. Reynolds, Jr., and G. D. W. Smith, "A STEM Method for Investigating Alloying Element Accumulation at Austenite:Ferrite Boundaries in an Fe-C-Mo Alloy," *Scripta Materialia*, **45**, (5): 561–567 2001.
45. W. T. Reynolds, Jr., "Bainite" in *Encyclopedia of Materials: Science and Technology*, K. H. J. Buschow, R. W. Cahn, M. C. Flemings, B. Ilschner, E. J. Kramer, and S. Mahajan, ed., Elsevier Science, Ltd., Oxford, UK, 2001.
44. H. I. Aaronson, G. R. Purdy, D. V. Malakhov and W. T. Reynolds, Jr., "Tests of the Zener Theory of the Incomplete Transformation Phenomenon in Fe-C-Mo Alloys," *Scripta Materialia*, **44**, (10): 2425–2430, 2001.
43. H. I. Aaronson, H. A. Fletcher, G. D. W. Smith, A. J. Garratt-Reed, W. T. Reynolds Jr. and G. R. Purdy, "Effects of Mo on Ferrite Formation in Fe-C-Mo Alloys", in *Heat Treating* including "Steel Heat Treating in the New Millennium: An International Symposium in Honor of Professor George Krauss", ASM International, Materials Park, OH, 620–630, 2000.
42. G. R. Purdy, W. T. Reynolds Jr., and H. I. Aaronson, "Analysis of the Solute Drag-Like Effect on Thickening Kinetics of Grain Boundary Ferrite Allotriomorphs in Fe-C-Mo Alloys," in the Proceedings of a Conference on Solid-Solid Phase Transformations, held May 24-28, 1999, Kyoto, Japan, The Japan Institute of Metals, Proceedings volume 12 JIMIC-3, 1999.

41. M. H. Hong, W. T. Reynolds Jr., T. Tarui and K. Hono "Atom Probe and Transmission Electron Microscopy Investigations of Heavily Drawn Pearlitic Steel Wire," *Metall. Mater. Trans.*, **30A**, (3A): 717–727, 1999.
40. Q. Liang and W. T. Reynolds Jr., "Determining Interphase Boundary Orientations from Near-Coincidence Sites," *Metall. Mater. Trans.*, **29A**, (8): 2059–2072, 1998.
39. J. K. Chen, G. Chen and W. T. Reynolds Jr., "Interfacial Structure and Growth Mechanisms of Lath-Shaped Precipitates in Ni – 45wt% Cr," *Phil. Mag. A*, **78**, (2): 399–416, 1998.
38. H. G. Read, W. T. Reynolds Jr., K. Hono, and T. Tarui, "APFIM and TEM Studies of Drawn Pearlitic Wire," *Scripta Mater.*, **37**, (8): 1221–1230, 1997.
37. J. K. Chen and W. T. Reynolds Jr., "The Role of Atomic Matching and Lattice Correspondences in the Selection of Habit Planes," *Acta Metall. Mater.*, **45**, (11): 4423–4430, 1997.
36. J. K. Chen, D. Farkas and W. T. Reynolds Jr., "Atomistic Simulation of an FCC:BCC Interface in Ni–Cr Alloys," *Acta Metall. Mater.*, **45**, (11): 4415–4421, 1997.
35. E. S. K. Menon, A. G. Fox, W. T. Reynolds, G. Spanos, "Peels of Steels," *Electron Microscopy and Analysis 1997*, Institute of Physics Conference Series, (153): 315–318, 1997.
34. H. I. Aaronson, G. Spanos, and W. T. Reynolds Jr, "A Status Report on the Three Different Definitions of Bainite Currently in Use," pp. 1–29 in *Boletim Técnico da Escola Politécnica da Universidade de São Paulo*, ed. S. Wolyneec, I. G. S. Falleiros, P. S. C. P. da Silva, A. F. Padilha, and M. B. Mourão, ISSN 1413-2176, BT/PMT/9615, 1996.
33. J. K. Chen, C. W. Spencer, M. E. Ekstrand, G. Chen, and W. T. Reynolds Jr., "Eutectoid Decomposition in Ag–Ga," *Metall. Mater. Trans.*, **27A**, (6): 1683–1689, 1996.
32. Chien C. Chiu, Seshu B. Desu, G. Chen, Ching Yi Tsai and William T. Reynolds Jr., "Deposition of Epitaxial β -SiC Films on Porous Si(100) from MTS in a Hot Wall LPCVD Reactor," *J. Mater. Res.*, **10**, (5): 1099–1107, 1995.
31. J. K. Chen, D. Farkas and W. T. Reynolds Jr., "Atomistic Simulations of FCC:BCC Interphase Boundary Structures and Energies," pp. 1097–1102 in the Proceedings of an International Conference on Solid-to-Solid Phase Transformations in Inorganic Materials PTM'94, W. C. Johnson, J. M. Howe, D. E. Laughlin, W. A. Soffa, ed., TMS-AIME, Warrendale, PA, 1994.
30. J. K. Chen and W. T. Reynolds Jr., "Determination of the Best Matching Direction and Plane in Partially Coherent Interfaces," pp. 1091–1096 in the Proceedings of an International Conference on Solid-to-Solid Phase Transformations in Inorganic Materials PTM'94, W. C. Johnson, J. M. Howe, D. E. Laughlin, W. A. Soffa, ed., TMS-AIME, Warrendale, PA, 1994.

29. G. Chen, J. M. Howe and W. T. Reynolds Jr., "Emission of Structural Defects During Precipitate Growth," pp. 291–296 in the Proceedings of an International Conference on Solid-to-Solid Phase Transformations in Inorganic Materials PTM'94, W. C. Johnson, J. M. Howe, D. E. Laughlin, W. A. Soffa, ed., TMS-AIME, Warrendale, PA, 1994.
28. J. K. Chen, T. W. Ross, III, G. Chen, M. Kikuchi and W. T. Reynolds Jr., "The Selection of Precipitate Habit Planes in Cr–32wt% Ni," *Metall. Mater. Trans.*, **25A**, (12): 2639–2646, 1994.
27. G. Chen, J. K. Chen, J. K. Lee and W. T. Reynolds Jr., "The Elastic Strain Energy of Growth Ledges on Coherent and Partially Coherent Precipitates," *Metall. Mater. Trans.*, **25A**, (10): 2073–2082, 1994.
26. J. K. Chen, R. A. Vandermeer and W. T. Reynolds Jr., "Effects of Alloying Elements upon Austenite Decomposition in Low-C Steels," *Metall. Mater. Trans.*, **25A**, (7): 1367–1379, 1994.
25. H. I. Aaronson and W. T. Reynolds Jr., "Discussion to 'Atom Probe Field Ion Microscopy of Bainitic Transformation in 2.25Cr–1Mo Weld Metal,' B. Josefsson and H.-O. Andren, *Mater. Sci. Tech.*, 7, 849 1991," *Scripta Metall. et Mater.*, **30**, (2): 265–267, 1994.
24. H. I. Aaronson, W. T. Reynolds Jr., and M. Enomoto, "Effects of Alloying Elements upon the Kinetics of the Proeutectoid Ferrite Reaction in Fe–C–X Alloys," pp. 85–128 in *Advances in Low Carbon High Strength Ferrous Alloys*, O. N. Mohanty, B. B. Rath, M. A. Imam, C. S. Sivaramakrishnan, ed., Trans Tech Publications Ltd., c/o Ashgate Pub., Brookfield, VT, 1993.
23. H. I. Aaronson, T. Furuhashi, J. M. Howe, W. T. Reynolds Jr, and G. Spanos, "Why Does the Phenomenological Theory of Martensite Crystallography Sometimes Quantitatively Describe the Surface Relief Effect and the Transformation Crystallography of Precipitate Plates?" pp. 169–193 in *Interfaces: Structure and Properties*, ed. S. Ranganathan, C. S. Pande, B. B. Rath, and D. A. Smith, Oxford and IBH Publishing Co, New Delhi, India, 1993.
22. W. T. Reynolds Jr, H. I. Aaronson, and G. Spanos, "A Summary of the Present Diffusionist Views on Bainite," *Materials Transactions, Jap. Inst. Met.*, **32**, (8): 737–746, 1991.
21. G. Spanos, W. T. Reynolds Jr, and R. A. Vandermeer, "The Role of Ledges in the Proeutectoid Ferrite and Proeutectoid Cementite Reactions in Steel," *Metall. Trans.*, **22A**, (6): 1367–1380, 1991.
20. H. I. Aaronson, T. Furuhashi, J. M. Rigsbee, W. T. Reynolds Jr, and J. M. Howe, "Crystallographic and Mechanistic Aspects of Growth by Shear and by Diffusional Processes," *Metall. Trans.*, **21A**, (9): 2369–2409, 1990.
19. W. T. Reynolds Jr., S. K. Liu, F. Z. Li, S. Hartfield and H. I. Aaronson, "An Investigation of the Generality of Incomplete Transformation to Bainite in Fe–C–X Alloys," *Metall. Trans.*, **21A**, (6): 1479–1491, 1990.

18. W. T. Reynolds Jr., F. Z. Li, C. K. Shui and H. I. Aaronson, "The Incomplete Transformation Phenomenon in Fe-C-Mo Alloys," *Metall. Trans.*, **21A**, (6): 1433-1463, 1990.
17. H. I. Aaronson, W. T. Reynolds Jr., G. J. Shiflet and G. Spanos "Bainite Viewed Three Different Ways," *Metall. Trans.*, **21A**, (11): 1343-1380, 1990.
16. H. I. Aaronson, W. T. Reynolds Jr. and G. Spanos, "Discussion of 'Low Temperature Ageing of Fe-N Austenite' by J. Focht, P. Rochegude and A. Hendry. I. Mechanism of the Bainite Reaction," *Scripta Metall. et Mater.*, **24**, (1): 219-220, 1990.
15. H. I. Aaronson, J. M. Rigsbee, T. Furuhashi, N. Prabhu, W. T. Reynolds Jr and J. M. Howe, "Further Rebuttal to J. W. Christian and D. V. Edmonds," *Scripta Metall.*, **23**, (2): 279-284, 1989.
14. H. I. Aaronson, W. T. Reynolds Jr., H. Hu and S. K. Liu "Comments on Reply to Discussion of 'The Bainite Transformation in a Silicon Steel,'" *Metall. Trans.*, **20A**, (2): 324-330, 1989.
13. W. T. Reynolds Jr., S. S. Brenner and H. I. Aaronson, "An FIM/AP Study of the Mo Concentration within Ferrite/Austenite Interfaces in an Fe, 0.88 at% C, 1.06 at% Mo Alloy," *Scripta Metall.*, **22**, (8): 1343-1348, 1988.
12. H. I. Aaronson, M. Enomoto, T. Furuhashi and W. T. Reynolds Jr., "Influence of the Structure and Chemistry of Austenite Ferrite Boundaries upon Grain Boundary Allotriomorphic Growth Kinetics and Composition in Fe-C and Fe-C-X Alloys," pp. 80-89 in the *Proceedings of an International Conference on Physical Metallurgy of Thermomechanical Processing of Steels and other Metals* (Thermec-88), I. Tamura, ed., The Iron and Steel Institute of Japan, Tokyo, 1988.
11. H. I. Aaronson, M. Enomoto and W. T. Reynolds Jr., "The Influence of Chemistry and Structure of Austenite-Ferrite Boundaries upon Growth Kinetics in Fe-C-X Alloys," pp. 20-36 in *Advances in Phase Transitions*, J. D. Embury and G. R. Purdy, ed., Pergamon Press, Toronto, 1988.
10. W. T. Reynolds Jr., F. Z. Li, C. K. Shui, G. J. Shiflet and H. I. Aaronson, "Formation of Nodular Bainite in Fe-C-Mo Alloys," pp. 330-333 in *Phase Transformations '87*, G. W. Lorimer, ed., The Institute of Metals, London, 1988.
9. H. I. Aaronson and W. T. Reynolds Jr., "The Bainite Reaction," pp. 301-308 in *Phase Transformations '87*, G. W. Lorimer, ed., The Institute of Metals, London, 1988.
8. M. Enomoto, W. T. Reynolds Jr. and H. I. Aaronson, "Influence of Alloying Element Distribution Within and Very Near α/γ Boundaries Upon Ferrite Growth Kinetics and Composition in Fe-C-X Alloys," pp. 65-68 in *Analytical Electron Microscopy*, D. C. Joy, ed., San Francisco Press, San Francisco, CA 1987.
7. H. I. Aaronson and W. T. Reynolds Jr., "Reply to a Discussion by J. W. Christian and D. V. Edmonds of Papers by Aaronson and Co-workers on the Proeutectoid Ferrite and Bainite Reactions" and "Rejoinder to Comments by J. W. Christian and D. V. Edmonds," *Scripta Metall.*, **22**, (4): 567-572 and 575-576, 1988.

6. C. K. Shui, W. T. Reynolds Jr., G. J. Shiflet and H. I. Aaronson, "Etchants for Quantitative Metallography of Bainite + Martensite Microstructures in Fe-C-Mo Alloys," *Metallography*, **21**, (1): 91-102, 1988.
5. H. I. Aaronson and W. T. Reynolds Jr., "Discussion and Further Discussion to 'Diffusional Formation of Ferrite in Iron and its Alloys,' Progress in Materials Science, **29**, 321-386, 1985, by H. K. D. H. Bhadeshia," *Scripta Metall.*, **21**, (11): 1599-1604 and **21**, (11): 1611-1614, 1987.
4. H. I. Aaronson, S. K. Liu, W. T. Reynolds Jr. and G. J. Shiflet, "Discussion on the Influence of a Solute Drag-Like Effect upon the Growth of Ferrite in Fe-C-X Alloys," *J. Mat. Sci.*, **20**, (11): 4232-4238, 1985.
3. W. T. Reynolds Jr. and H. I. Aaronson, "On the Growth Kinetics of Ferrite Plates and Allotriomorphs in High-Nickel Fe-C-Ni Alloys," *Scripta Metall.*, **19**, (10): 1171-1176, 1985.
2. S. K. Liu, W. T. Reynolds Jr., H. Hu, G. J. Shiflet and H. I. Aaronson, "Discussion of 'The Bainite Transformation in a Silicon Steel,'" *Metall. Trans.*, **16A**, (3): 457-466, 1985.
1. W. T. Reynolds Jr., M. Enomoto and H. I. Aaronson, "The Proeutectoid Ferrite Reaction," pp. 155-200 in *Phase Transformations in Ferrous Alloys*, A. R. Marder and J. I. Goldstein, ed., TMS-AIME, Warrendale, PA 1984.