Steven J. Zinkle—Peer-reviewed Publications (contributed and invited)

1. R.C. Haight, R.M. White and S.J. Zinkle, "A Hybrid Charged-Particle Guide for Studying (n, charged particle) Reactions", Proc. Int. Conf. Nuclear Data for Science and Technology, Ed. K.H. Bhockhoff, Antwerp, Belgium, Sept. 1982 (Dordrecht, Netherlands: Reidel 1983) pp. 849-850

2. S.J. Zinkle, R.A. Dodd, G.L. Kulcinski and K. Farrell, "Helium Bubble Formation in Cu, Ni and Cu-Ni alloys", J. Nucl. Mater. 117 (1983) 213-217

3. S.J. Zinkle and G.L. Kulcinski, "14-MeV Neutron Irradiation of Copper Alloys", J. Nucl. Mater. 122&123 (1984) 449-454

4. S.J. Zinkle and G.L. Kulcinski, "Low-Load Microhardness Changes in 14-MeV Neutron Irradiated Copper Alloys", in The Use of Small-Scale Specimens for Testing Irradiated Material, ASTM STP 888, Eds. W.R. Corwin and G.E. Lucas (ASTM, Philadelphia 1986) pp. 141-160

5. B. Badger, Jr., D.L. Plumton, S.J. Zinkle, R.L. Sindelar, G.L. Kulcinski, R.A. Dodd and W.G. Wolfer, "Experimental Investigation of the Effect of Injected Interstitials on Void Formation", in Effects of Radiation on Materials: Twelfth Int. Symp., ASTM STP 870, Eds. F.A. Garner and J.S. Perrin (ASTM, Philadelphia 1985) pp. 297-316

6. S.J. Zinkle, R.A. Dodd and G.L. Kulcinski, "Comparison of Thermal and Irradiated Behavior of High-Strength, High-Conductivity Copper Alloys", in Effects of Radiation on Materials: Twelfth Int. Symp., ASTM STP 870, Eds. F.A. Garner and J.S. Perrin (ASTM, Philadelphia 1985) pp. 363-382

7. S.J. Zinkle, R.A. Dodd and G.L. Kulcinski, "Ion Irradiation of High-Strength, High-Conductivity Copper Alloys at Fusion-Relevant Temperatures", J. Nucl. Mater. 133&134 (1985) 680-684

8. S.J. Zinkle, D.H. Plantz, A.E. Bair, R.A. Dodd and G.L. Kulcinski, "Correlation of the Yield Strength and Microhardness of High-Strength, High-Conductivity Copper Alloys", J. Nucl. Mater. 133&134 (1985) 685-689

9. S.J. Zinkle, G.L. Kulcinski and R.W. Knoll, "Microstructure of Copper Following High Dose 14-MeV Cu Ion Irradiation", J. Nucl. Mater. 138 (1986) 46-56

10. S.J. Zinkle and R.L. Sindelar, "Preparation of Ion-Irradiated Foils for Cross-Section Analysis", Nucl. Instr. Meth. in Phys. Research B 16 (1986) 154-162

11. S.J. Zinkle, G.L. Kulcinski and L.K. Mansur, "Radiation-Enhanced Recrystallization in Copper Alloys", J. Nucl. Mater. 141-143 (1986) 188-192

12. S.J. Zinkle and W.C. Oliver, "Mechanical Property Measurements on Ion-Irradiated Copper and Cu-Zr", J. Nucl. Mater. 141-143 (1986) 548-552

13. S.J. Zinkle, L.E. Seitzman and W.G. Wolfer, "Stability of Vacancy Clusters in Metals I: Energy Calculations for Pure Metals", Philos. Mag. A 55 (1987) 111-125

14. S.J. Zinkle, W.G. Wolfer, G.L. Kulcinski and L.E. Seitzman, "Stability of Vacancy Clusters in Metals II: Effect of Oxygen and Helium on Void Formation in Metals", Philos. Mag. A 55 (1987) 127-140

15. S.J. Zinkle, "Microstructure and Properties of Copper Alloys Following 14-MeV Neutron Irradiation", J. Nucl. Mater. 150 (1987) 140-158

16. S.J. Zinkle, "Electrical Resistivity of Small Dislocation Loops in Irradiated Copper", J. Phys. F: Metal Physics 18 (1988) 377-391

17. W.C. Oliver, C.J.McHargue and S.J. Zinkle, "Thin Film Characterization Using a Mechanical Properties Microprobe", Int. Conf. on Metallurgical Coatings, Amer. Vac. Soc., San Diego 1987, Thin Solid Films 153 (1987) 185-196

18. S.J. Zinkle, "Surviving Defect Fraction in 14-MeV Neutron Irradiated Copper", 3rd Int. Conf. on Fusion Reactor Materials, Oct. 1987, Karlsruhe, FRG, J. Nucl. Mater. 155-157 (1988) 1201-1204

19. S.J. Zinkle and R.L. Sindelar, "Defect Microstructures in Neutron-Irradiated Copper and Stainless Steel", 3rd Int. Conf. on Fusion Reactor Materials, Oct. 1987, Karlsruhe, FRG, J. Nucl. Mater. 155-157 (1988) 1196-1200

20. S.J. Zinkle, "Hardness and Depth-Dependent Microstructure of Ion-Irradiated $MgAl_2O_4$", J. American Ceramic Society, 72, 8 (1989) 1343-51

21. S.J. Zinkle, "Ion Irradiation Studies of Oxide Ceramics", in Structure-Property Relationships in Ion-Beam Surface-Modified Ceramics, C.J. McHargue et al., Eds., NATO Advanced Study Institute Series E, Applied Sciences, Vol. 170, Il Ciocco, Italy, Aug. 28 - Sept. 9, 1988, Kluwer Academic Publ., Dordrecht, The Netherlands (1989) pp. 219-229

22. S.J. Zinkle, "Microstructural Characterization of Al_2O_3 Following Simultaneous Triple Ion Bombardment", in Processing and Characterization of Materials Using Ion Beams, MRS Symposium Proceedings Vol. 128, L.E. Rehn, J. Greene and F.A. Smidt, Eds. (Materials Research Society, Pittsburgh 1989) pp. 363-368

23. S.J. Zinkle and K. Farrell, "Void Swelling and Defect Cluster Formation in Reactor-Irradiated Copper", J. Nucl. Mater. 168 (1989) 262-267

24. L.M. Wang, S.J. Zinkle, R.A. Dodd and G.L. Kulcinski, "Effects of Pre-injected Helium in Heavy-Ion Irradiated Nickel and Nickel-Copper Alloys", TMS-AIME Fall Meeting, Symp. on

Irradiation-Enhanced Materials Science and Engineering, Chicago, Sept. 26-29, 1988, Metall. Trans. A, 21 (1990) 1847-51.

25. S.J. Zinkle and E.H. Lee, "Effect of Oxygen on Vacancy Cluster Morphology in Metals", Metall. Trans. A, 21 (1990) 1037-1051.

26. H.E. Kim, S.J. Zinkle and W.R. Allen, "Preparation and Characterization of ^{17}O-Enriched Alumina for Nuclear Fusion Damage Experiments", J. American Ceramic Soc. 73, 2 (1990) 425-429.

27. S.J. Zinkle and S. Kojima, "Microstructural Changes in $MgAl_2O_4$ Induced by Ion Irradiation", 5th Intern. Conf. on Radiation Effects in Insulators, Hamilton, Ontario, June 19-23, 1989, Nucl. Instr. Methods Phys. Res. B46 (1990) 165-170

28. S.J. Zinkle, K. Farrell and H. Kanazawa, "Microstructure and Cavity Swelling in Reactor-Irradiated Dilute Copper-Boron Alloy", 4th Int. Conf. on Fusion Reactor Materials, Dec. 1989, Kyoto, Japan, J. Nucl. Mater. 179-181 (1991) 994-997

29. T.J. Miller, S.J. Zinkle and B.A. Chin, "Strength and Fatigue of Dispersion-Strengthened Copper", 4th Int. Conf. on Fusion Reactor Materials, Dec. 1989, Kyoto, Japan, J. Nucl. Mater. 179-181 (1991) 263-266

30. S.J. Zinkle and S. Kojima, "Helium-Assisted Cavity Formation in Ion-Irradiated Ceramics", 4th Int. Conf. on Fusion Reactor Materials, Dec. 1989, Kyoto, Japan, J. Nucl. Mater. 179-181 (1991) 395-398

31. S. Kojima, S.J. Zinkle and H.L. Heinisch, "Radiation Hardening in Neutron Irradiated Polycrystalline Copper: Barrier Strength of Defect Clusters", 4th Int. Conf. on Fusion Reactor Materials, Dec. 1989, Kyoto, Japan, J. Nucl. Mater. 179-181 (1991) 982-985

32. S.J. Zinkle, C.P. Haltom, L.C. Jenkins, and C.K.H. DuBose, "Technique for Preparing Ceramic Specimens for Cross-Section TEM Examination", J. Eln. Microsc. Technique 19 (1991) 452-460

33. S.J. Zinkle and J.S. Huang, "Mechanical Properties of Carbon-Implanted Niobium", MRS Spring Meeting, Symp. on Thin Films: Stresses and Mechanical Properties II, San Francisco, April 16-20, 1990, M.F. Doerner, W.C. Oliver, G.M. Pharr, and F.R. Brotzen, Eds., MRS Symp. Proc. Vol. 188 (Materials Research Society, Pittsburgh, 1990) pp. 121-126

34. R.D. Griffin, S.J. Zinkle, R.A. Dodd, G.L. Kulcinski and D.S. Gelles, "Ion Irradiation Effects on a Martensitic Stainless Steel Designed for Reduced Long-Life Radioactivity", 15th Intern. Symp. on the Effects of Radiation on Materials, Nashville, TN, June 17-21, 1990, ASTM STP 1125, Eds. R.E. Stoller et al. (ASTM, Philadelphia, 1992) pp. 979-992

35. S.J. Zinkle, "Dislocation Loop Formation in Ion-Irradiated Polycrystalline Spinel and Alumina", 15th Intern. Symp. on the Effects of Radiation on Materials, Nashville, TN, June 17-21, 1990, ASTM STP 1125, Eds. R.E. Stoller et al. (ASTM, Philadelphia, 1992) pp. 749-763

36. S.J. Zinkle, "A Brief Review of Radiation-Induced Cavity Swelling and Hardening in Copper and Copper Alloys", 15th Intern. Symp. on the Effects of Radiation on Materials, Nashville, TN, June 17-21, 1990, ASTM STP 1125, Eds. R.E. Stoller et al. (ASTM, Philadelphia, 1992) pp. 813-834

37. L.L. Snead, S.J. Zinkle and D. Steiner, "Interfacial Push-out Measurements of Fully-Bonded SiC/SiC Composites", Symp. on Ceramic, Polymer and Metal Matrix Composites, Amer. Ceramic Society 2nd Intern. Ceramic Science and Technology Congress, Orlando, FL, Nov. 12-15, 1990, Ceramic Transactions, pp. 611-617

38. F.A. Garner and S.J. Zinkle, "Radiation Resistance of Copper Alloys at High Exposure Levels", Proc. All-Union Conf. on the Effect of Irradiation on Materials of Fusion Reactors", Leningrad, USSR, Sept. 18-20, 1990, (invited)

39. N.D. Evans, S.J. Zinkle, J. Bentley and E.A. Kenik, "The Quantification of Metallic Aluminum Profiles in Al^+ Implanted $MgAl_2O_4$ Spinel by Electron Energy Loss Spectroscopy", 49th Annual Meeting of the Electron Microscopy Society of America (San Francisco Press, 1991) pp. 728-29

40. H.E. Kim, S.J. Zinkle, and W.R. Allen, "Preparation of $MgAl_2O_4$ Spinel Containing Controlled Amounts of ^{17}O Isotope", J. Amer. Ceramic Soc. 74, 6 (1991) 1442-44

41. S.J. Zinkle, "Anisotropic Dislocation Loop Nucleation in Ion Irradiated Spinel", 5th Intern. Conf. on Fusion Reactor Materials, Clearwater, FL, Nov. 1991, J. Nucl. Mater. 191-194 (1992) 645-649

42. R. Yamada, S.J. Zinkle, and G.P. Pells, "Defect Formation in Ion-Irradiated Al_2O_3 and $MgAl_2O_4$: Effects of Grain Boundaries and Fusion Transmutation Products", 5th Intern. Conf. on Fusion Reactor Materials, Clearwater, FL, Nov. 1991, J. Nucl. Mater. 191-194 (1992) 640-644

43. S.J. Zinkle and E.R. Hodgson, "Radiation-Induced Changes in the Physical Properties of Ceramic Materials", 5th Intern. Conf. on Fusion Reactor Materials, Clearwater, FL, Nov. 1991 (invited), J. Nucl. Mater. 191-194 (1992) 58-66

44. L.L. Snead, S.J. Zinkle and D. Steiner, "Radiation-Induced Microstructure and Mechanical Property Evolution of SiC/SiC Composite Materials", 5th Intern. Conf. on Fusion Reactor Materials, Clearwater, FL, Nov. 1991, J. Nucl. Mater. 191-194 (1992) 560-565

45. L.L. Snead, D. Steiner and S.J. Zinkle, "Measurement of the Effect of Radiation Damage to Ceramic Composite Interfacial Strength", 5th Intern. Conf. on Fusion Reactor Materials, Clearwater, FL, Nov. 1991, J. Nucl. Mater. 191-194 (1992) 566-570

46. W.R. Allen and S.J. Zinkle, "Lattice Location and Clustering of Helium in Ceramic Oxides", 5th Intern. Conf. on Fusion Reactor Materials, Clearwater, FL, Nov. 1991, J. Nucl. Mater. 191-194 (1992) 625-629

47. C.K. Lee, B.A. Chin, S.J. Zinkle, and R.C. Wilcox, "Brazing of Copper-Alumina Alloys", 5th Intern. Conf. on Fusion Reactor Materials, Clearwater, FL, Nov. 1991, J. Nucl. Mater. 191-194 (1992) 488-492

48. F.W. Clinard, Jr., E.H. Farnum, D.L. Griscom, R.F. Mattas, S.S. Medley, F.W. Wiffen, S.S. Wojtowicz, K.M. Young and S.J. Zinkle, "Materials Issues in Diagnostic Systems for BPX and ITER", 5th Intern. Conf. on Fusion Reactor Materials, Clearwater, FL, Nov. 1991, J. Nucl. Mater. 191-194 (1992) 1399-1403

49. R.E. Stoller, R.H. Goulding, and S.J. Zinkle, "Measurement of Dielectric Properties in Ceramics under Ionizing and Displacive Irradiation Conditions", 5th Intern. Conf. on Fusion Reactor Materials, Clearwater, FL, Nov. 1991, J. Nucl. Mater. 191-194 (1992) 602-606

50. S.J. Zinkle, A. Horsewell, B.N. Singh, and W.F. Sommer, "Dispersoid Stability in a Cu-Al_2O_3 Alloy Under Energetic Cascade Damage Conditions", J. Nucl. Mater. 195 (1992) 11-16.

51. S.J. Zinkle and B.N. Singh, "Analysis of Displacement Damage and Defect Production Under Cascade Damage Conditions" (invited) J. Nucl. Mater. 199 (1993) 173-191.

52. L.K. Mansur, E.H. Lee, M.B. Lewis, and S.J. Zinkle, "Applications of Multiple-Ion Irradiations to Metals, Ceramics, and Polymers", Intern. Conf. on Evolution in Beam Applications, Takasaki, Japan, Nov. 1991, edited by Japan Atomic Energy Research Institute (Radiation Application Development Association, 1992) pp. 682-691

53. S.J. Zinkle, P.J. Maziasz and R.E. Stoller, "Dose Dependence of the Microstructural Evolution in Neutron-Irradiated Austenitic Stainless Steel", Intern. Workshop on Time Dependence of Radiation Damage Accumulation and its Impact on Materials Properties, Oct. 14-20, 1992, Montreux, Switzerland (invited), J. Nucl. Mater. 206 (1993) 266-286

54. B.N. Singh and S.J. Zinkle, "Defect Accumulation in Pure FCC Metals in the Transient Regime", Intern. Workshop on Time Dependence of Radiation Damage Accumulation and its Impact on Materials Properties, Oct. 14-20, 1992, Montreux, Switzerland (invited), J. Nucl. Mater. 206 (1993) 212-229.

55. E.V. Nesterova, V.V. Rybin, S.J. Zinkle, V.R. Barabash and A.V. Naberenkov, "Ion Irradiation Induced Subgrain Structure Formation in Dispersion Strengthened Copper Alloys", 2nd Intern. Conf. on the Effect of Irradiation on Materials of Fusion Reactors, Sept. 22-24, 1992, St. Petersburg, Russia, Plasma Devices and Operations 2 (1994) 293-300.

56. S.J. Zinkle, "Ceramics Radiation Effects Issues for ITER", 2nd Intern. Conf. on the Effect of Irradiation on Materials of Fusion Reactors, Sept. 22-24, 1992, St. Petersburg, Russia, Plasma Devices and Operations 3 (1994) 139-149.

57. S.J. Zinkle, E.V. Nesterova, V.R. Barabash, V.V. Rybin, and A.V. Naberenkov, "Structural Stability of MAGT and GlidCop Dispersion Strengthened Copper Alloys Under Ion Irradiation", 2nd Intern. Conf. on the Effect of Irradiation on Materials of Fusion Reactors, Sept. 22-24, 1992, St. Petersburg, Russia, Plasma Devices and Operations 3 (1994)

58. W. Kesternich, F. Scheuermann and S.J. Zinkle, "Radiation-Induced Electrical Degradation of Ceramic Materials: An Artefact?", J. Nucl. Mater. 206 (1993) 68-71.

59. S.J. Zinkle, E.V. Nesterova, V.R. Barabash, V.V. Rybin, and A.V. Naberenkov, "Effect of Ion Irradiation on the Structural Stability of Commercial Dispersion-Strengthened Copper Alloys", J. Nucl. Mater. 208 (1994) 119-127.

60. C-K Lee, B.A. Chin, S.J. Zinkle and R.C. Wilcox, "Mechanical Properties of Induction Brazed GlidCop Al-15", 16th Intern. Symp. on Effects of Radiation on Materials, ASTM STP 1175, Eds. A.S. Kumar, D.S. Gelles, R.K. Nanstad and E.A. Little (Amer. Soc. for Testing and Materials, Philadelphia, 1994) pp. 1026-1040.

61. E.D. Specht, D.A. Walko and S.J. Zinkle, "Amorphization of Al_2O_3 by Ion Induced Density Reduction", Nuclear Instruments and Methods in Phys. Res. B 84 (1994) 323-330.

62. R. Yamada, S.J. Zinkle and G.P. Pells, "Microstructure of Al_2O_3 and $MgAl_2O_4$ Preimplanted with H, He and C and Irradiated with Ar^+ ions", J. Nucl. Mater. 209 (1994) 191-203.

63. S.J. Zinkle, A. Horsewell, B.N. Singh and W.F. Sommer, "Defect Microstructure in Copper Alloys Irradiated with 750 MeV Protons", 6th Intern. Conf. on Fusion Reactor Materials, Stresa, Italy, Sept. 27-Oct. 1, 1993, J. Nucl. Mater. 212-215 (1994) 132-138.

64. Y. Katano, S.J. Zinkle, K. Nakata, A. Hishinuma and H. Ohno, "Microstructural Evolution in Ion- and/or Electron-Irradiated Single Crystal Al_2O_3", 6th Intern. Conf. on Fusion Reactor Materials, Stresa, Italy, Sept. 27-Oct. 1, 1993, J. Nucl. Mater. 212-215 (1994) 1039-1045.

65. L.L. Snead, D.P. White and S.J. Zinkle, "In-Core Measurement of DC Electrical Conductivity of Ceramics", 6th Intern. Conf. on Fusion Reactor Materials, Stresa, Italy, Sept. 27-Oct. 1, 1993, J. Nucl. Mater. 212-215 (1994) 1107-1112.

66. S.J. Zinkle, "Microstructure of Ion-Irradiated Oxide Ceramic Insulators" (invited), 7th Intern. Conf. on Radiation Effects in Insulators, Nagoya, Japan, Sept. 6-10, 1993, Nuclear Instr. Methods B 91 (1994) 234-246.

67. E.D. Specht, D.A. Walko and S.J. Zinkle, "Density Reduction: A Mechanism for Amorphization at High Ion Doses", in Crystallization and Related Phenomena in Amorphous Materials, Eds. M. Libera, T.E. Haynes, P. Cebe and J.E. Dickinson, Jr., Mat. Res. Soc. Symp. Proc., Vol. 321 (Materials Research Society, Pittsburgh, PA, 1994) pp. 399-404.

68. S.J. Zinkle and S.A. Fabritsiev, "Copper Alloys for High Heat Flux Structure Applications" (invited), in Material Properties Data Compendium for Fusion Plasma Facing Components, Atomic and Plasma-Material Interaction Data for Fusion 5 (1994) 163-192.

69. N.D. Evans and S.J. Zinkle, "EELS of Colloids in Mg^+ Implanted $MgAl_2O_4$ Spinel", Proc. 52nd Annual Meeting of the Microscopy Society of America, Eds. G.W. Bailey and A.J. Garrett-Reed (San Francisco Press, 1994) pp. 980-981; also published in Proc. 28th Annual Microbeam Analysis Society Meeting, Ed. J. Friel (VCH Publ, 1994) pp. 337-338.

70. L.W. Hobbs, F.W. Clinard, Jr., S.J. Zinkle and R.C. Ewing, "Radiation Effects in Ceramics", (invited chapter for proceedings of International Summer School on Fundamentals of Radiation Damage, Urbana, IL, August 1-12, 1993, J. Nucl. Mater. 216 (1994) 291-321.

71. B.N. Singh and S.J. Zinkle, "Influence of Irradiation Parameters on Damage Accumulation in Metals and Alloys", J. Nucl. Mater. 217 (1994) 161-171

72. J.D Hunn, R.E. Stoller and S.J. Zinkle, "In-situ Measurement of Radiation Induced Conductivity of Thin Film Ceramics", Proc. Amer. Ceram. Soc. Symposium on Fabrication and Properties of Ceramics for Fusion Energy, J. Nucl. Mater. 219 (1995) 169-175.

73. W. Kesternich, F. Scheuermann and S.J. Zinkle, "On the Measurement of Radiation Induced Electrical Degradation in Insulating Materials", Proc. Amer. Ceram. Soc. Symposium on Fabrication and Properties of Ceramics for Fusion Energy, J. Nucl. Mater. 219 (1995) 190-201.

74. S.J. Zinkle, "Effect of Irradiation Spectrum on the Microstructural Evolution in Ceramic Insulators", Amer. Ceram. Soc. Symposium on Fabrication and Properties of Ceramics for Fusion Energy, J. Nucl. Mater. 219 (1995) 113-127.

75. S.J. Zinkle and L.L. Snead, "Microstructure of Copper and Nickel Irradiated with Fission Neutrons Near 230˚C", 17th Intern. Symp. on Effects of Radiation on Materials, Sun Valley, ID, June 20-23, 1994, Eds. D.S. Gelles et al., J. Nucl. Mater. 225 (1995) 123-131.

76. S.J. Zinkle, "Effect of Irradiation Spectrum on the Microstructure of Ion-Irradiated Al_2O_3", in Microstructure of Irradiated Materials, Eds. I.M. Robertson, L.E. Rehn, S.J. Zinkle and W.J. Phythian, Materials Research Society Symp. Proc. Vol. 373 (MRS, Pittsburgh, 1995), pp. 287-292.

77. S.J. Zinkle, J.D. Hunn and R.E. Stoller, "Microstructure of Al_2O_3 Irradiated with an Applied Electric Field", in Microstructure of Irradiated Materials, Eds. I.M. Robertson, L.E. Rehn, S.J. Zinkle and W.J. Phythian, Materials Research Society Symp. Proc. Vol. 373 (MRS, Pittsburgh, 1995), pp. 299-304.

78. N.D. Evans, S.J. Zinkle and J. Bentley, "Analytical Electron Microscopy of Precipitates in Ion-Implanted $MgAl_2O_4$ Spinel", in Microstructure of Irradiated Materials, Eds. I.M. Robertson, L.E. Rehn, S.J. Zinkle and W.J. Phythian, Materials Research Society Symp. Proc. Vol. 373 (MRS, Pittsburgh, 1995), pp. 419-424.

79. L.L. Snead and S.J. Zinkle, "Amorphization and the Effect of Implanted Ions in SiC", in Microstructure of Irradiated Materials, Eds. I.M. Robertson, L.E. Rehn, S.J. Zinkle and W.J. Phythian, Materials Research Society Symp. Proc. Vol. 373 (MRS, Pittsburgh, 1995), pp. 377-382.

80. L.L. Snead, D.P. White and S.J. Zinkle, "Investigation of Radiation Induced Electrical Degradation in Alumina at ITER-Relevant Conditions", J. Nucl. Mater. 226 (1995) 58-66.

81. N.D. Evans, J. Bentley and S.J. Zinkle, "Energy-Filtered Plasmon Images of $MgAl_2O_4$ Implanted with Al^+ and Mg^+ Ions", Proc. Microscopy and Microanalysis 1995, eds. G.W. Bailey, M.H. Ellisman, R.A. Hennigar and N.J. Zaluzec (Jones & Begell Publ., New York, 1995) 266-267.

82. J. Bentley, E.A. Kenik, N.D. Evans, E.L. Hall and S.J. Zinkle, "Energy-Filtered Imaging on a 300 kV TEM", Electron Microscopy and Analysis 1995, vol. 147 (IOP Publishing, Bristol, England, 1995) 187-190.

83. R.H. Goulding, S.J. Zinkle, D.A. Rasmussen and R.E. Stoller, "Transient Effects of Ionizing and Displacive Radiation on the Dielectric Properties of Ceramics", J. Appl. Phys. 79, No. 5 (1996) 2920-2933.

84. S.J. Zinkle and L.L. Snead, "Influence Of Irradiation Spectrum and Implanted Ions on the Amorphization Of Ceramics" (invited), 8th Intern. Conf. on Radiation Effects in Insulators, Catania, Italy, Sept. 11-15, 1995, Nuclear Instr. Methods B 116 (1996) 92-101.

85. S.A. Fabritsiev, S.J. Zinkle and B.N. Singh, "Evaluation of Copper Alloys for Fusion Reactor High Heat Flux Components" (invited), 7th Intern. Conf. on Fusion Reactor Materials, Obninsk, Russia, Sept. 25-29, 1995, J. Nucl. Mater. 233-237 (1996) 127-137.

86. S.A. Fabritsiev, A.S. Pokrovsky, S.J. Zinkle, A.F. Rowcliffe, D.J. Edwards, F.A. Garner, V.A. Sandakov, B.N. Singh and V.R. Barabash, "The Effect of Neutron Spectrum on the Mechanical

and Physical Properties of Pure Copper and Copper Alloys", 7th Intern. Conf. on Fusion Reactor Materials, Obninsk, Russia, Sept. 25-29, 1995, J. Nucl. Mater. 233-237 (1996) 526-533.

87. S.A. Fabritsiev, A.S. Pokrovsky, S.J. Zinkle and D.J. Edwards, "Low-Temperature Radiation Embrittlement of Copper Alloys", 7th Intern. Conf. on Fusion Reactor Materials, Obninsk, Russia, Sept. 25-29, 1995, J. Nucl. Mater. 233-237 (1996) 513-518.

88. C. Kinoshita and S.J. Zinkle, "Potential and Limitations of Ceramics in Terms of Structural and Electrical Integrity in Fusion Environments" (invited), 7th Intern. Conf. on Fusion Reactor Materials, Obninsk, Russia, Sept. 25-29, 1995, J. Nucl. Mater. 233-237 (1996) 100-110.

89. J.R. Haines, S.J. Zinkle, D.M. Williams and I. Gomes, "IFMIF Test Cell Design Issues", Proc. 16th IEEE/NPSS Symp. on Fusion Engineering, Vol. 2, Eds. G.H. Miley and C. Elliott, Champaign, IL Sept. 30-Oct. 5, 1995, pp. 1232-1237.

90. J.E. Pawel, A.F. Rowcliffe, G.E. Lucas and S.J. Zinkle, "Irradiation Performance of Stainless Steels for ITER Application", Symposium on Point Defect and Irradiation Phenomena, 117th Meeting of Japan Institute of Metals, Honolulu, Dec. 13-15, 1995, J. Nucl. Mater. 239 (1996) 126-131.

91. Y.K.M. Peng, E.T. Cheng, R.J. Cerbone, J.D. Galombos, P.J. Fogarty, J.R. Haines, B.E. Nelson, Y. Okamura, D.J. Strickler, C. Tsai and S.J. Zinkle, "Design Assumptions and Bases for Small D-T-Fueled Spherical Tokamak (ST) Fusion Core", Proc. 14th topical meeting on the Technology of Fusion Energy, Reno, NV, June 17-20, 1996, Fusion Technology 30 no. 3 (1996) 1372-1379.

92. S.J. Zinkle, "Irradiation Spectrum and Ionization Induced Diffusion Effects in Ceramics" (invited), in Microstructure Evolution During Irradiation, Eds. I.M. Robertson, G.S. Was, L.W. Hobbs and T. Diaz de la Rubia, Materials Research Society Symp. Proc. Vol. 439 (MRS, Pittsburgh, 1997), pp. 667-678.

93. L.L. Snead and S.J. Zinkle, "Threshold irradiation dose for amorphization of silicon carbide" (invited), in Microstructure Evolution During Irradiation, Eds. I.M. Robertson, G.S. Was, L.W. Hobbs and T. Diaz de la Rubia, Materials Research Society Symp. Proc. Vol. 439 (MRS, Pittsburgh, 1997), pp. 595-606.

94. P.M. Rice, L.L. Snead, D.J. Alexander and S.J. Zinkle, "Microstructure of V-4Cr-4Ti Following Low Temperature Neutron Irradiation", in Microstructure Evolution During Irradiation, Eds. I.M. Robertson, G.S. Was, L.W. Hobbs and T. Diaz de la Rubia, Materials Research Society Symp. Proc. Vol. 439 (MRS, Pittsburgh, 1997), pp. 343-348.

95. S.J. Zinkle and C. Kinoshita, "Defect Production in Ceramics" (invited), International Workshop on Defect Production, Accumulation and Materials Performance in Irradiation Environment, Davos, Switzerland, Oct. 3-8, 1996, J. Nucl. Mater. 251 (1997) 200-217.

96. A. Almazouzi, T. Diaz de la Rubia, S. Ishino, N.Q. Lam, B.N. Singh, H. Trinkaus, M. Victoria and S.J. Zinkle, "Defect Production, Accumulation and Material Performance in an Irradiation Environment", summary of the International Workshop on Defect Production, Accumulation and Materials Performance in Irradiation Environment, Davos, Switzerland, Oct. 3-8, 1996, J. Nucl. Mater. 251 (1997) 291-294.

97. D.J. Alexander, L.L. Snead, S.J. Zinkle, A.N. Gubbi, A.F. Rowcliffe, W.S. Eatherly and E.E. Bloom, "Effects of Low Temperature Irradiation on the Mechanical Properties of V-4Cr-4Ti", 18th ASTM Symposium on Effects of Radiation on Materials, Hyannis, MA, June 25-27, 1996, ASTM STP 1325, Eds. R.K. Nanstad et al. (ASTM, West Conshohocken, PA, 1999) 1119-1133.

98. J.E. Pawel, E.E. Bloom, L.K. Mansur, A.F. Rowcliffe, S.J. Zinkle, R.E. Stoller and P.J. Maziasz, "Toward a Mechanistic Understanding of Radiation Effects in Materials", Workshop on Challenges in Radiation Damage and Future Perspectives, Tokyo, Japan, Rad. Eff. Def. Solids, 144 (1998) 287-309.

99. D.P. White, L.L. Snead, W.S. Eatherly and S.J. Zinkle, "Investigation of Radiation Induced Electrical Degradation Effects in Polycrystalline Alumina During Neutron Irradiation", J. Appl. Phys. 83, no. 4 (1998) 1924-1930.

100. S.J. Zinkle and G.P. Pells "Microstructure of Al_2O_3 and $MgAl_2O_4$ Irradiated at Low Temperature", 5th Symposium on Fabrication and Properties of Ceramics for Fusion Energy and Other High Radiation Environments, American Ceramic Society Annual Meeting, Cincinnati, OH, May 5-7, 1997, J. Nucl. Mater. 253 (1998) 120-132.

101. C. Hazelton, J. Rice, L.L. Snead and S.J. Zinkle, "Effect of Neutron Irradiation on the Dielectric, Mechanical and Thermal Properties of Ceramics for RF Transmission Windows", 5th Symposium on Fabrication and Properties of Ceramics for Fusion Energy and Other High Radiation Environments, American Ceramic Society Annual Meeting, Cincinnati, OH, May 5-7, 1997, J. Nucl. Mater. 253 (1998) 190-195.

102. W.J. Weber, R.C. Ewing, C.R.A. Catlow, T. Diaz de la Rubia, L.W. Hobbs, C. Kinoshita, Hj. Matzke, A.T. Motta, M.A. Nastasi, E.H.K. Salje, E.R. Vance and S.J. Zinkle, "Radiation Effects in Crystalline Ceramic Phases Relevant to the Immobilization and Disposition of Nuclear Waste and Weapons Plutonium", J. Mater. Res. 13, no. 6 (1998) 1434-1484.

103. L.L. Snead, S.J. Zinkle, J.C. Hay and M.C. Osborne, "Amorphization of SiC under Ion and Neutron Irradiation" 9th Int. Conf. on Radiation Effects in Insulators, Knoxville, TN, Sept. 15-19, 1997, Nucl. Instruments Methods B 141 (1998) 123-132.

104. S.J. Zinkle and V.A. Skuratov, "Track Formation and Dislocation Loop Interaction in Spinel Irradiated with Swift Heavy Ions" 9th Int. Conf. on Radiation Effects in Insulators, Knoxville, TN, Sept. 15-19, 1997, Nucl. Instruments Methods B 141 (1998) 737-746.

105. A. Meldrum, S.J. Zinkle, L.A. Boatner and R.C. Ewing, “A Transient Liquid-like Phase in the Displacement Cascades of Zircon, Hafnon and Thorite”, Nature 395 (1998) 56-58.

106. S.J. Zinkle, "Fundamental Radiation Effects Parameters in Metals and Ceramics” (invited), Kiritani symposium on Structural Defects in Advanced Materials, Inuyama, Japan, Dec. 18-20, 1996, Rad. Eff. Def. Solids 148 (1999) 447-477.

107. S.A. Fabritsiev, A.S. Pokrovsky, and S.J. Zinkle, "Effect of Neutron Dose and Spectra, He/dpa Ratio and Ni and Zn Accumulation on Irradiation Damage of Pure Copper and PH and DS Copper Alloys", Fusion Engineering and Design 38, no. 4 (1998) 459-473.

108. S.J. Zinkle, H. Matsui, D.L. Smith, A.F. Rowcliffe, E. van Osch, K. Abe, and V. Kazakov, "Research and Development on Vanadium Alloys for Fusion Applications", (invited) 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 258-263 (1998) 205-214.

109. A.F. Rowcliffe, S.J. Zinkle, J.F. Stubbins, D.J. Edwards and D.J. Alexander, "Austenitic Stainless Steels and High Strength Copper Alloys for Fusion Components", (invited) 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 258-263 (1998) 183-192.

110. T. Muroga, S. Ohnuki, F.A. Garner and S.J. Zinkle, "The Influence of Neutron Spectrum and Irradiation History on Microstructural Evolution in Fusion Structural Materials", (invited) 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 258-263 (1998) 130-139.

111. P.M. Rice and S.J. Zinkle, "Temperature Dependence of the Radiation Damage Microstructure in V-4Cr-4Ti Neutron Irradiated to Low Dose", 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 258-263 (1998) 1414-1419.

112. D.S. Gelles, P.M. Rice, S.J. Zinkle and H.M. Chung, "Microstructural Examination of Neutron-Irradiated V-(4-5%)Cr-(4-5%)Ti", 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 258-263 (1998) 1380-1385.

113. K. Shiiyama, M.M.R. Howlader, S.J. Zinkle, T. Shikama, M. Kutsuwada, S. Matsumura and C. Kinoshita, "Electrical Conductivity and Current-Voltage Characteristics of Alumina with or without Neutron and Electron Irradiation", 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 258-263 (1998) 1848-1855.

114. T. Shikama, S.J. Zinkle, K. Shiiyama, L.L. Snead and E.H. Farnum, "Electrical Properties of Ceramics During Reactor Irradiation", 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 258-263 (1998) 1867-1872.

115. T. Shikama and S.J. Zinkle, "Long Term Degradation of Electrical Insulation of Al_2O_3 under High Flux Fission Reactor Irradiation", 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 258-263 (1998) 1861-1866.

116. K. Noda, K. Ehrlich, S. Jitsukawa, A. Möslang and S.J. Zinkle, "User's Requirements for IFMIF", (invited) 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 258-263 (1998) 97-105.

117. A. Möslang, C. Antonnucci, E. Daum, J.R. Haines, S. Jitsukawa, K. Noda and S.J. Zinkle, "Overview of the IFMIF Test Facility", 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 258-263 (1998) 427-432.

118. J.R. Haines, S. Jitsukawa, A. Möslang, K. Noda, R. Viola and S.J. Zinkle, "Design Concept for the IFMIF Test Assemblies", 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 258-263 (1998) 400-406.

119. S.A. Fabritsiev, A.S. Pokrovsky, S.J. Zinkle and D.J. Edwards, "The Effect of Neutron Dose, Irradiation and Testing Temperature on Mechanical Properties of Copper Alloys", 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 258-263 (1998) 1015-1021.

120. D.J. Alexander, S.J. Zinkle and A.F. Rowcliffe, "Fracture Toughness of Copper-Base Alloys for ITER Applications", 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 271&272 (1999) 429-434.

121. M. Kiritani, N.M. Ghoniem, S. Ishino, T.D. de la Rubia, B.N. Singh, E. Kuramoto, H.L. Heinisch, S.J. Zinkle, C.H. Woo, P. Vajda, S.I. Golubov, R.E. Stoller, H. Wollenberger, Y. Kato, N. Yoshida, H. Matsui, M. Victoria, and J.N. Yu, "Damage production and accumulation", 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 271&272 (1999) 540-552.

122. T. Shikama, K. Yasuda, S. Yamamoto, C. Kinoshita, S.J. Zinkle and E.R. Hodgson, "Irradiation Effects in Ceramics for Fusion Reactor Applications", 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 271&272 (1999) 560-568.

123. K. Abe, M. Dalle-Donne, K. Ehrlich, S.J. Zinkle, B.N. Singh, F.W. Wiffen, L.D. Ryabev, H. Nakajima, J.N. Yu, M. Victoria, K. Tomabechi, E.T. Cheng, H. Matsui, P. Rocco, "Materials research and development strategy in the next decade", 8th Int. Conf. on Fusion Reactor Materials, Sendai, Japan, Oct. 27-31, 1997, J. Nucl. Mater. 271&272 (1999) 578-582.

124. S.J. Zinkle and L.L. Snead, "Materials Research and Development for Fusion Energy Applications", in Innovative Materials in Advanced Energy Technologies, Ed. P. Vincenzini, Proc. 9th CIMTEC World Ceramics Congress & Forum on New Materials, Florence, Italy, June 14-19, 1998, (Techna, Faenza, Italy, 1999) pp. 307-318.

125. A. Meldrum, L.A. Boatner, S.J. Zinkle, S.X. Wang, L.M. Wang and R.C. Ewing, "Effect of dose rate and temperature on the crystalline-to-metamict transformation in the ABO4 Orthosilicates ", Canadian Minerologist 37 (1999) 207-221.

126. A. Meldrum, S.J. Zinkle, L.A. Boatner, and R.C. Ewing, "Amorphization, Recrystallization, and Phase Decomposition in the ABO_4 Orthosilicates ", Phys. Rev. B 50, No. 6 (1999) 3981-3992.

127. L.L. Snead, S.J. Zinkle, W. S. Eatherly, D.K. Hensley, N.L. Vaughn and J.W. Jones, "Dose Rate Dependence of the Amorphization of Silicon Carbide", MRS Symposium N: Microstructural Processes in Irradiated Materials, Eds. S.J. Zinkle, G.E. Lucas, R.C. Ewing and J.S. Williams, Boston, MA, Nov. 30-Dec. 4, 1998, Materials Research Society Symp. Proc. Vol. 540 (MRS, Warrendale, PA, 1999), pp. 165-170.

128. S.J. Zinkle, Hj. Matzke and V.A. Skuratov, "Microstructure of Swift Heavy Ion Irradiated $MgAl_2O_4$ Spinel", MRS Symposium N: Microstructural Processes in Irradiated Materials, Eds. S.J. Zinkle, G.E. Lucas, R.C. Ewing and J.S. Williams, Boston, MA, Nov. 30-Dec. 4, 1998, Materials Research Society Symp. Proc. Vol. 540 (MRS, Warrendale, PA, 1999), pp. 299-304.

129. S.J. Zinkle, L.L. Snead, W. S. Eatherly, J.W. Jones and D.K. Hensley, "Effect of Low Temperature Ion Irradiation on the Microstructure of Nitride Ceramics", MRS Symposium N: Microstructural Processes in Irradiated Materials, Eds. S.J. Zinkle, G.E. Lucas, R.C. Ewing and J.S. Williams, Boston, MA, Nov. 30-Dec. 4, 1998, Materials Research Society Symp. Proc. Vol. 540 (MRS, Warrendale, PA, 1999), pp. 305-310.

130. A. Meldrum, S.J. Zinkle, L.A. Boatner, M. Wu, R. Mu, A. Ueda, D.O. Henderson and R.C. Ewing, "Radiation Effects in Zircon, Hafnon, and Thorite: Implications for Pu Disposal", MRS Symposium N: Microstructural Processes in Irradiated Materials, Eds. S.J. Zinkle, G.E. Lucas, R.C. Ewing and J.S. Williams, Boston, MA, Nov. 30-Dec. 4, 1998, Materials Research Society Symp. Proc. Vol. 540 (MRS, Warrendale, PA, 1999), pp. 395-400.

131. S.A. Fabritsiev, A.S. Pokrovsky, S.J. Zinkle and D.J. Edwards, "Neutron Irradiation Induced High Temperature Embrittlement of Pure Copper and High Strength Copper Alloys", 19th ASTM Symposium on Effects of Radiation on Materials, Seattle, WA, June 16-18, 1998, ASTM STP 1366, M.L. Hamilton, A.S. Kumar, S.T. Rosinski and M.L. Grossbeck, Eds. (American Society for Testing and Materials, West Conshohocken, PA, 2000) pp. 1226-1242.

132. C.P.C. Wong, R.E. Nygren, L. Barleon, M.H. Anderson, J.G. Murphy, M.E. Sawan, I.N. Sviatoslavsky, M.L. Corradini, S. Malang, S.J. Zinkle, B. Nelson,. P. Fogarty, S. Sharafat, N. Ghoniem, S. Majumdar, R. Mattas, B. Merrill, K. McCarthy, R. Nygren, D.L. Youchison, "Helium-cooled refractory alloys first wall and blanket evaluation", 5th International Symposium on Fusion Nuclear Technology, Rome, Italy, Sept. 19-24, 1999, Fusion Engineering & Design 49-50 (2000) 709-717.

133. S.J. Zinkle and N.M. Ghoniem, "Operating Temperature Windows for Fusion Reactor Structural Materials" (invited), 5th International Symposium on Fusion Nuclear Technology, Rome, Italy, Sept. 19-24, 1999, Fusion Engineering & Design 51&52 (2000) 55-71.

134. S.J. Zinkle and B.N. Singh, "Microstructure of Cu-Ni Alloys Neutron Irradiated at 210 and 420˚C to 14 dpa", 9th Int. Conf. on Fusion Reactor Materials, Colorado Springs, CO, Oct. 10-15, 1999, J. Nucl. Mater. 283-287 (2000) 306-312.

135. A.F. Rowcliffe, S.J. Zinkle and D.T. Hoelzer, "Effect of Strain Rate on the Tensile Properties of Unirradiated and Irradiated V-4Cr-4Ti", 9th Int. Conf. on Fusion Reactor Materials, Colorado Springs, CO, Oct. 10-15, 1999, , J. Nucl. Mater. 283-287 (2000) 508-512.

136. D.T. Hoelzer, M.K. West, S.J. Zinkle and A.F. Rowcliffe, "Solute Interactions in Pure Vanadium and V-4Cr-4Ti Alloy ", 9th Int. Conf. on Fusion Reactor Materials, Colorado Springs, CO, Oct. 10-15, 1999, J. Nucl. Mater. 283-287 (2000) 616-621.

137. N. Hashimoto, S.J. Zinkle, A.F. Rowcliffe, J.P. Robertson, Y. Miwa and M.L. Grossbeck, "Deformation Mechanisms in 316 Stainless Steel Irradiated at 60 and 330˚C", 9th Int. Conf. on Fusion Reactor Materials, Colorado Springs, CO, Oct. 10-15, 1999, J. Nucl. Mater. 283-287 (2000) 528-533.

138. A.S. Pokrovsky, S.A. Fabritsiev, D.J. Edwards, S.J. Zinkle and A.F. Rowcliffe, "Effect of Neutron Dose and Irradiation Temperature on the Mechanical Properties and Structure of Dispersion Strengthened Copper Alloys", 9th Int. Conf. on Fusion Reactor Materials, Colorado Springs, CO, Oct. 10-15, 1999, J. Nucl. Mater. 283-287 (2000) 404-408.

139. S.A. Fabritsiev, A.S. Pokrovsky, D.J. Edwards, S.J. Zinkle and A.F. Rowcliffe, "Effect of High Dose Neutron Irradiation on the Mechanical Properties and Structure of Copper Alloys and Cu/SS Joints for ITER Applications", 9th Int. Conf. on Fusion Reactor Materials, Colorado Springs, CO, Oct. 10-15, 1999, J. Nucl. Mater. 283-287 (2000) 523-527.

140. S. Yamamoto, T. Shikama, V. Belyakov, E. Farnum, E. Hodgson, T. Nishitani, D. Orlinski, S. Zinkle, S. Kasai, P. Stott, K. Young, V. Zaveriaev, A. Costley, L. deKock, C. Walker, and G. Janeschitz, "Impact of Irradiation Effects on Design Solutions for ITER Diagnostics" (invited), 9th Int. Conf. on Fusion Reactor Materials, Colorado Springs, CO, Oct. 10-15, 1999, J. Nucl. Mater. 283-287 (2000) 60-69.

141. L.L. Snead, R. Yamada, K. Noda, Y. Katoh, S.J. Zinkle, W.S. Eatherly, and A.L. Qualls, "In-situ Thermal Conductivity Measurement of Ceramics in a Fast Neutron Environment", 9th Int. Conf. on Fusion Reactor Materials, Colorado Springs, CO, Oct. 10-15, 1999, J. Nucl. Mater. 283-287 (2000) 545-550.

142. R.J. Kurtz, K. Abe, V.M. Chernov, V.A. Kazakov, G.E. Lucas, H. Matsui, T. Muroga, G.R. Odette, D.L. Smith, and S.J. Zinkle, "Critical Issues and Current Status of Vanadium Alloys for Fusion Energy Applications" (invited), 9th Int. Conf. on Fusion Reactor Materials, Colorado Springs, CO, Oct. 10-15, 1999, J. Nucl. Mater. 283-287 (2000) 70-78.

143. R.E. Stoller and S.J. Zinkle, "On the Relationship Between Uniaxial Yield Strength and Resolved Shear Stress in Polycrystalline Materials", 9th Int. Conf. on Fusion Reactor Materials, Colorado Springs, CO, Oct. 10-15, 1999, J. Nucl. Mater. 283-287 (2000) 349-352.

144. T. Shikama and S.J. Zinkle, "Electrical Conductivity of Alumina after Heavy Irradiation in a High-Flux Fission Reactor", Philosophical Magazine B 81, No. 1 (2001) 75-89.

145. D.K. Sze, K. McCarthy, M. Sawan, M. Tillack, A. Ying, S. Zinkle, "Flibe assessments", 14th ANS Topical Meeting on the Technology of Fusion Energy, Park City, Utah, October 16-19, 2000, Fusion Technology 39, no. 2 (2001) 746-752.

146. C.P.C. Wong, L. Barleon, M.H. Anderson, J.G. Murphy, M.E. Sawan, I.N. Sviatoslavsky, M.L. Corradini, S. Malang, S.J. Zinkle, B. Nelson,. P. Fogarty, S. Sharafat, N. Ghoniem, S. Majumdar, R. Mattas, B. Merrill, K. McCarthy, R. Nygren, D.L. Youchison, "Evaluation of the Tungsten Alloy Vaporizing Lithium First Wall and Blanket Concept", 14th ANS Topical Meeting on the Technology of Fusion Energy, Park City, Utah, October 16-19, 2000, Fusion Technology 39, no. 2 (2001) 815-822.

147. M.A. Abdou, A. Ying, N. Morley, K. Gulec, S. Smolentsev, M. Kotschenreuther, S. Malang, S. Zinkle, T. Rognlien, P. Fogarty, B. Nelson, K. McCarthy, M.Z. Youssef, N. Ghoniem, D. Sze, C. Wong, M. Sawan, H. Khater, R. Wooley, R. Mattas, R. Moir, S. Sharafat, J. Brooks, A. Hassanein, D. Petti, M. Tillack, M. Ulrickson, T. Uchimoto, "On the exploration of innovative concepts for fusion chamber technology", Fusion Engineering and Design 54, no. 2 (2001) 181-247.

148. S.J. Zinkle, J.W. Jones and V.A. Skuratov, "Microstructure of Swift Heavy Ion Irradiated SiC, Si_3N_4 and AlN", MRS Symposium R: Microstructural Processes in Irradiated Materials–2000, Eds. G.E. Lucas, L.L. Snead, M.A. Kirk, Jr., and R.G. Elliman, Boston, MA, Nov. 27-29, 2000, Materials Research Society Symp. Proc. Vol. 650 (MRS, Warrendale, PA, 2001), pp. R3.19.1-3.19.6.

149. N. Hashimoto, S.J. Zinkle, R.L. Klueh, A.F. Rowcliffe and K. Shiba, "Deformation Mechanisms in Ferritic/martensitic Steels Irradiated in HFIR", MRS Symposium R: Microstructural Processes in Irradiated Materials–2000, Eds. G.E. Lucas, L.L. Snead, M.A. Kirk, Jr., and R.G. Elliman, Boston, MA, Nov. 27-29, 2000, Materials Research Society Symp. Proc. Vol. 650 (MRS, Warrendale, PA, 2001), pp. R1.10.1-1.10.6.

150. G. Kalinin, V. Barabash, S. Fabritsiev, H. Kawamura, I. Mazul, M. Ulrickson, C. Wu, S. Zinkle, "ITER R&D: Vacuum vessel and in-vessel components: Materials development and test", Fusion Engineering and Design 55, no. 2-3 (2001) pp. 231-246.

151. S.A. Fabritsiev, A.S. Pokrovsky, D.J. Edwards, S.J. Zinkle and A.F. Rowcliffe, "Effect of Neutron Irradiation on the Mechanical Properties and Fracture Mode of Cu/SS Joints", Plasma Devices and Operations 8, No. 4 (2001) 225-239.

152. S.A. Fabritsiev, A.S. Pokrovsky, D.J. Edwards, S.J. Zinkle and A.F. Rowcliffe, "The Effect of Copper-steel Joining Technology on the Radiation Resistance of Copper Alloys", Plasma Devices and Operations 8, No. 4 (2001) 241-255.

153. H. Takeuchi, M. Sugimoto, H. Nakamura, T. Yutani, M. Ida, S. Jitsukawa, T. Kondo, S. Matsuda, H. Matsui, T.E. Shannon, R.A. Jameson, F.W. Wiffen, J. Rathke, C. Piaszczyk, S.J. Zinkle, A. Möslang, K. Ehrlich, F. Cozzani, H. Klein, J-M. Lagniel, R. Ferdinand, E. Daum, M. Martone, S. Ciattiglia, and V. Chernov, "Staged Deployment of the International Fusion Materials Irradiation Facility", IAEA meeting on Fusion Energy, Sorrento, Italy, October, 2000, IAEA-CN-77/FTP2/03.

154. B.N. Singh, M. Eldrup, S.J. Zinkle and S.I. Golubov, "On Grain-Size-Dependent Void Swelling in Pure Copper Irradiated with Fission Neutrons", Philosophical Magazine A 82, No. 6 (2002) 1137-1158.

155. T. Muroga, S.J. Zinkle, A.L. Qualls and H. Watanabe, "Varying temperature irradiation experiment in HFIR", Journal of Nuclear Materials 299 (2001) 148-156.

156. N.M. Ghoniem, D. Walgraef and S.J. Zinkle, "Theory and Experiment of Nanostructure Self-organization in Irradiated Materials", invited perspective article for Journal of Computer-Aided Materials Design, 8 (2001) 1-38.

157. L.L. Snead and S.J. Zinkle, "Structural Relaxation in Amorphous Silicon Carbide", 11th International Conference on Radiation Effects in Insulators, Lisbon, Portugal, Sept. 3-5, 2001, Nucl. Instr. Meth. B 191 (2002) 497-503.

158. S.J. Zinkle, V.A. Skuratov and D.T. Hoelzer, "On the conflicting roles of ionizing radiation in ceramics", 11th International Conference on Radiation Effects in Insulators, Lisbon, Portugal, Sept. 3-5, 2001, Nucl. Instr. Meth. B 191 (2002) 758-766.

159. S.A. Fabritsiev, A.S. Pokrovsky, S.J. Zinkle and S.E. Ostrovsky, "Effect of Helium on the Swelling of GlidCop Al25IG", J. Nucl. Mater. 306, No. 2-3 (2002) 218-231.

160. S.J. Zinkle, M. Victoria and K. Abe, "Scientific and Engineering Advances from Fusion Materials R&D", (invited plenary), 10th Int. Conf. on Fusion Reactor Materials, Baden Baden, Germany, Oct. 14-19, 2001, J. Nucl. Mater. 307-311 (2002) 31-42.

161. S.J. Zinkle, N. Hashimoto, D.T. Hoelzer, A.L. Qualls, T. Muroga, B.N. Singh, "Effect of Periodic Temperature Variations on the Microstructure of Neutron-Irradiated Metals", 10th Int. Conf. on Fusion Reactor Materials, Baden-Baden, Germany, Oct. 14-19, 2001, J. Nucl. Mater. 307-311 (2002) 192-196.

162. T. Muroga, T. Nagasaka, K. Abe, V.M. Chernov, H. Matsui, D.L. Smith, Z.Y. Xu and S.J. Zinkle, "Vanadium Alloys–Overview and Recent Results"(invited), 10th Int. Conf. on Fusion Reactor Materials, Baden-Baden, Germany, Oct. 14-19, 2001, J. Nucl. Mater. 307-311 (2002) 547-554.

163. G. Kalinin, S.A. Fabritsiev, B.N. Singh, S. Tähtinen, S.J. Zinkle, "Specification of Properties and Design Allowables for Copper Alloys used in HHF Components of ITER", 10th Int. Conf.

on Fusion Reactor Materials, Baden-Baden, Germany, Oct. 14-19, 2001, J. Nucl. Mater. 307-311 (2002) 668-672.

164. M. Eldrup, B.N. Singh, S.J. Zinkle, T.S. Byun and K. Farrell, "Dose Dependence of Defect Accumulation in Neutron Irradiated Copper and Iron", 10th Int. Conf. on Fusion Reactor Materials, Baden-Baden, Germany, Oct. 14-19, 2001, J. Nucl. Mater. 307-311 (2002) 912-917.

165. T. Shikama and S.J. Zinkle, "Electrical in situ and post-irradiation properties of ceramics relevant to fusion irradiation conditions" (invited), 10th Int. Conf. on Fusion Reactor Materials, Baden-Baden, Germany, Oct. 14-19, 2001, J. Nucl. Mater. 307-311 (2002) 1073-1079.

166. J. Sheffield, D. Batchelor, S. Zinkle and M. Sawan, "Reference Scenario for an Advanced Deuterium Power Plant System" 19th IEEE/NPSS Symposium on Fusion Energy, Atlantic City, New Jersey, Jan. 22-25, 2002 (IEEE, Piscataway, NJ, 2002) 252-255.

167. S.J. Zinkle and A. Kohyama, "Advanced Materials for Fusion Technology" (invited) 19th IEEE/NPSS Symposium on Fusion Energy, Atlantic City, New Jersey, Jan. 22-25, 2002 (IEEE, Piscataway, NJ, 2002) 477-483.

168. T. Muroga, M. Gasparotto and S.J. Zinkle, "Overview of Materials for Fusion Reactors" (invited plenary), 6th International Symposium on Fusion Nuclear Technology, San Diego, CA, April 7-12, 2002, Fusion Engineering & Design 61-62 (2002) 13-25.

169. D.L. Smith, J.H. Park, I. Lyublinski, V. Evtikhin, A. Perujo, H. Gassbrenner, T. Terai and S.J. Zinkle, "Progress in Coating Development for Fusion Systems" (invited), 6th International Symposium on Fusion Nuclear Technology, San Diego, CA, April 7-12, 2002, Fusion Engineering & Design 61-62 (2002) 629-641.

170. M.E. Sawan, S.J. Zinkle and J. Sheffield, "Impact of Tritium Removal and He-3 Recycling on Structure Damage Parameters in a D-D Fusion System", 6th Intern. Symp. on Fusion Nuclear Technology, San Diego, CA, April 7-12, 2002, Fusion Engineering & Design 61-62 (2002) 561-567.

171. M.E. Sawan, H.Y. Khater and S.J. Zinkle, "Nuclear Features of the Fusion Ignition Research Experiment (FIRE)", 6th Intern. Symp. on Fusion Nuclear Technology, San Diego, CA, April 7-12, 2002, Fusion Engineering & Design 63-64 (2002) 547-557.

172. V.A. Skuratov, S.J. Zinkle, A.E. Efimov, K. Havancsak, "Swift Heavy Ion-Induced Modification of Al_2O_3 and MgO Surfaces", 14th International Workshop on Inelastic Ion-Surface Collisions, September 8-13, 2002, Ameland, The Netherlands, Nucl. Instr. Methods B 203 (2003) 136-140.

173. M.E. Sawan, L.L. Snead and S.J. Zinkle, "Radiation Damage Parameters for SiC/SiC Composite Structure in Fusion Nuclear Environment", 15th Topical Meeting on the Technology of Fusion Energy, American Nuclear Society Winter Meeting, Washington D.C., November 17-21, 2002, Fusion Science and Technology 44, No. 1 (2003) 150-154.

174. T. Muroga, H. Watanabe, K. Fukumoto, M. Satou, A. Kimura, S.J. Zinkle, N. Hashimoto, D.T. Hoelzer, and A.L. Qualls, "Summary of the Varying Temperature Irradiation Experiment in HFIR", 15th Topical Meeting on the Technology of Fusion Energy, American Nuclear Society Winter Meeting, Washington D.C., November 17-21, 2002, Fusion Science and Technology 44, No. 2 (2003) 450-454.

175. T. Shikama, T. Yano, J. Ukai, S. Onose, M. Itoh, S.J. Zinkle, L.L. Snead, T. Maruyama, S. Nagata, B. Tsuchiya, and K. Toh, "Gas Nuclear Transmutation Effects in Aluminum Nitride", 15th Topical Meeting on the Technology of Fusion Energy, American Nuclear Society Winter Meeting, Washington D.C., November 17-21, 2002, Fusion Science and Technology 44, No. 2 (2003) 495-499.

176. R. Goldston, M. Abdou, C. Baker, M. Campbell, V. Chan, S. Dean, A. Hubbard, R. Iotti, T. Jarboe, J. Lindl, B.G. Logan, K. McCarthy, F. Najmabadi, C. Olsen, S. Prager, N. Sauthoff, J. Sethian, J. Sheffield, S. Zinkle, "A plan for the development of fusion energy", Journal of Fusion Energy, 21, No. 2, (2002) 61-111.

177. S.J. Zinkle, N. Hashimoto, Y. Matsukawa, R.E. Stoller, and Yu.N. Osetsky, "Microstructures of Irradiated and Mechanically Deformed Metals and Alloys: Fundamental Aspects"(invited), in Radiation Effects and Ion Beam Processing of Materials, Eds. L.M. Wang, R. Fromknecht, L.L. Snead, D.F. Downey and H. Takahashi, Materials Research Society Symposium proceedings vol. 792 (MRS, Warrendale, PA, 2004) pp. 1-10.

178. E.E. Bloom, S.J. Zinkle, and F.W. Wiffen "Materials to Deliver the Promise of Fusion Power–Progress and Challenges"(invited), 11th Int. Conf. on Fusion Reactor Materials, Kyoto, Japan, Dec. 8-12, 2003, J. Nucl. Mater. 329-333 (2004) 12-19.

179. S.J. Zinkle and Y. Matsukawa, "Observation and Analysis of Defect Cluster Production and Interactions with Dislocations"(invited), 11th Int. Conf. on Fusion Reactor Materials, Kyoto, Japan, Dec. 8-12, 2003, J. Nucl. Mater. 329-333 (2004) 88-96.

180. L.K. Mansur, A.F. Rowcliffe, R.K. Nanstad, S.J. Zinkle and W.R. Corwin, "Materials Needs for Fusion, Generation IV Fission reactors and Spallation Neutron Sources–Similarities and Differences", 11th Int. Conf. on Fusion Reactor Materials, Kyoto, Japan, Dec. 8-12, 2003, J. Nucl. Mater. 329-333 (2004) 166-172.

181. K. Fukumoto, H. Matsui, T. Muroga, S.J. Zinkle, D.T. Hoelzer, and L.L. Snead, "Varying temperature effects on mechanical properties of vanadium alloys during neutron irradiation", 11th Int. Conf. on Fusion Reactor Materials, Kyoto, Japan, Dec. 8-12, 2003, J. Nucl. Mater. 329-333 (2004) 472-476.

182. Y. Matsukawa and S.J. Zinkle, "Dynamic Observation of the Collapse of a Stacking Fault Tetrahedron by Moving Dislocations, 11th Int. Conf. on Fusion Reactor Materials, Kyoto, Japan, Dec. 8-12, 2003, J. Nucl. Mater. 329-333 (2004) 919-923.

183. S.J. Zinkle, and F.A. Garner "Effect of initial oxygen content on the void swelling behavior of fast neutron irradiated copper", 11th Int. Conf. on Fusion Reactor Materials, Kyoto, Japan, Dec. 8-12, 2003, J. Nucl. Mater. 329-333 (2004) 938-941.

184. N. Hashimoto, T.S. Byun, K. Farrell and S.J. Zinkle, "Deformation Microstructure of Neutron-Irradiated Pure Polycrystalline Metals", 11th Int. Conf. on Fusion Reactor Materials, Kyoto, Japan, Dec. 8-12, 2003, J. Nucl. Mater. 329-333 (2004) 947-952.

185. S. Sharafat, N. Ghoniem and S.J. Zinkle, "Thermodynamic Stability of Oxide, Nitride and Carbide Coating Materials in Liquid Sn-25Li", 11th Int. Conf. on Fusion Reactor Materials, Kyoto, Japan, Dec. 8-12, 2003, J. Nucl. Mater. 329-333 (2004) 1429-1433.

186. N. Hashimoto, T.S. Byun, K. Farrell and S.J. Zinkle, "Deformation Microstructure of Neutron-Irradiated Pure Polycrystalline Vanadium", J. Nucl. Mater. 336 (2005) 225-232.

187. L.L. Snead, S.J. Zinkle and D.P. White. "Thermal conductivity degradation of ceramic materials due to low temperature, low dose neutron irradiation." In Thermal Conductivity 27/Thermal Expansion 15, Joint Conference, October 26-29, 2003, Knoxville, TN, DEStech Publications, Hsin Wang, ed. (2005) 424-440.

188. L.L. Snead, S.J. Zinkle and D.P. White, "Thermal Conductivity Degradation of Ceramic Materials due to Low Temperature Low Dose Neutron Irradiation", J. Nucl. Mater. 340 (2005) 187-202.

189. C.P.C. Wong, S. Malang, M. Sawan, S. Smolentsev, S. Majumdar, B. Merrill, D.K. Sze, N. Morley, S. Sharafat, M. Dagher, P. Peterson, H. Zhao, S.J. Zinkle, M. Abdou and M. Youssef, "Assessment of First Wall and Blanket Options with the Use of Liquid Breeder", 16th ANS topical meeting on the Technology of Fusion Energy, Madison, WI, Sept. 14-16, 2004, Fusion Science and Technology 47, no. 3 (2005) 502-509.

190. S.J. Zinkle, "Overview of the US Fusion Materials Sciences Program" (invited), 16th ANS topical meeting on the Technology of Fusion Energy, Madison, WI, Sept. 14-16, 2004, Fusion Science and Technology 47, no. 4 (2005) 821-828.

191. S.J. Zinkle, "Fusion materials science: overview of challenges and recent progress"(invited tutorial), 46th Annual Meeting of the American Physical Society Division of Plasma Physics, Savannah, GA, Nov. 15-19, 2004, Physics of Plasmas 12, no. 5 (2005) 058101 (8 pp).

192. V.A. Skuratov, S.J. Zinkle, A.E. Efimov, K. Havancsak, "Surface Defects in Al_2O_3 and MgO Irradiated with High-Energy Ions", International Conference on Surface Modification of Materials by Ion Beams, Surface & Coatings Technology 196 (2005) 56-62.

193. M. Li and S.J. Zinkle, "Deformation Mechanism Maps of Unirradiated and Irradiated V-4Cr-4Ti", 22nd ASTM Symposium on Effects of Radiation on Materials, Boston, MA, June 8-10, 2004, J. ASTM International 2, no. 10 (2005), document #JAI12462 (17 pp.).

194. Y. Matsukawa, Y.N. Osetsky, R.E. Stoller and S.J. Zinkle, "The Collapse of a Stacking Fault Tetrahedra by Interaction with Gliding Dislocations", Dislocations 2004: 2nd International Conference on Physics of Dislocations, La Colle-sur-Loup, France, September 13-17, 2004, Materials Science and Engineering A 401-402 (2005) 366-369.

195. S.J. Zinkle, "Advanced Materials for Fusion Technology" (invited), 23rd Symposium on Fusion Technology, Venice, Italy, Sept. 20-24, 2004, Fusion Engineering and Design 74 (2005) 31-40.

196. C. Baker, S. Prager, M. Abdou, L. Berry, R. Betti, V. Chan, D. Craig, J. Dahlburg, R. Davidson, J. Drake, R. Hawryluk, D. Hill, A. Hubbard, G. Logan, E. Marmar, M. Mauel, K. McCarthy, S. Parker, N. Sauthoff, R. Stambaugh, M. Ulrickson, J. Van Dam, G. Wurden, M. Zarnstorff and S. Zinkle, "Scientific Challenges, Opportunities and Priorities for the US Fusion Energy Sciences Program, Journal of Fusion Energy 24, No. 1-2 (2005) 13-114.

197. T. Nagasaka, T. Muroga, M. Li, D.T. Hoelzer, S.J. Zinkle, M.L. Grossbeck and H. Matsui, "Tensile Property of Low Activation Vanadium Alloy after Liquid Lithium Exposure", 7th International Symposium on Fusion Nuclear Technology, Tokyo, Japan, May 22-27, 2005, Fusion Engineering and Design 81 (2006) 307-313.

198. A. Ying, M.A. Abdou, C.P.C. Wong, S. Malang, N.B. Morley, M. Sawan, B. Merrill, D.K. Sze, R. Kurtz, S. Willms, M. Ulrickson and S.J. Zinkle, "An Overview of US ITER Test Blanket Module Program", 7th International Symposium on Fusion Nuclear Technology, Tokyo, Japan, May 22-27, 2005, Fusion Engineering and Design 81 (2006) 433-441.

199. C.P.C. Wong, S. Malang, M. Sawan, M. Dagher, S. Smolentsev, B. Merrill, M. Youssef, S. Reyes, D.K. Sze, N.B. Morley, S. Sharafat, P. Calderoni, G. Sviatoslavsky, R. Kurtz, P. Fogerty, S.J. Zinkle and M. Abdou, "An Overview of Dual Coolant Pb-17Li Breeder First Wall and Blanket Concept Development for the US ITER-TBM Design", 7th International Symposium on Fusion Nuclear Technology, Tokyo, Japan, May 22-27, 2005, Fusion Engineering and Design 81 (2006) 461-467.

200. S.J. Zinkle and B.N. Singh, "Microstructure of Neutron-irradiated Iron Before and After Tensile Deformation" TMS symposium on Microstructural Processes in Irradiated Materials, 134th TMS Annual Meeting, San Francisco, CA, Feb. 14-17, 2005, J. Nucl. Mater. 351 (2006) 269-284.

201. Y. Matsukawa, Y.N. Osetsky, R.E. Stoller and S.J. Zinkle, "Destruction Processes of Large Stacking Fault Tetrahedra Induced by Direct Interaction with Gliding Dislocations" TMS symposium on Microstructural Processes in Irradiated Materials, 134th TMS Annual Meeting, San Francisco, CA, Feb. 14-17, 2005, J. Nucl. Mater. 351 (2006) 285-294.

202. T.G. Nieh, M. Zhang, S.J. Zinkle, T.E. McGreevy, D.T. Hoelzer and S.A. Speakman, "Effect of Texture on the High Temperature Mechanical Properties of Nb-1%Zr Alloy", Scripta Materialia, 55 (2006) 719-722.

203. Y.N. Osetsky, Y. Matsukawa, R.E. Stoller and S.J. Zinkle, “On the features of dislocation-obstacle interactions in thin films: large scale atomistic simulation” Phil. Mag. Lett. 86, no. 8 (2006) 511-519.

Steven J. Zinkle—Non-refereed Reports and Presentations

1. S.J. Zinkle and R.W. Knoll, "A Literature Review of Radiation Damage Data for Copper and Copper Alloys", University of Wisconsin Fusion Technology Institute Report UWFDM-578 (June 1984) 94pp.

2. R.L. Sindelar, S.J. Zinkle and G.L. Kulcinski, "Depth-Dependent Swelling in 14-MeV Ion-Irradiated P7 Alloy", Damage Analysis and Fundamental Studies Quarterly Progress Report, DOE/ER-0046/20, Feb. 1985, pp. 49-55

3. S.J. Zinkle and W.C. Oliver, "Mechanical Property Measurements on Ion-Irradiated Metals", ORNL/TM-10126 (August 1986) 15pp.

4. W.C. Oliver, S.J. Zinkle and C.J. McHargue, "Progress on the Development of the Mechanical Properties Microprobe", ORNL Materials Science and Engineering Review Meeting, Oak Ridge, TN, May 1986

5. S.J. Zinkle, "Hydrogen Embrittlement in GLIDCOP Al-20 Copper Alloy", ADIP Semiann. Prog. Report for period ending March 31, 1986, DOE/ER-0045/16, pp. 163-167

6. S.J. Zinkle, "Microstructure and Physical Properties of 14-MeV Neutron Irradiated Copper Alloys", 13th Intern. ASTM Symp. on Effects of Radiation on Materials, Seattle, WA, June 1986

7. S.J. Zinkle, "Microstructure of Copper Alloys Following 14-MeV Neutron Irradiation", Fusion Reactor Materials Semiann. Prog. Report for period ending Sept. 30, 1986, DOE/ER-0313/1, pp. 123-33

8. S.J. Zinkle, "Review of Copper Alloy R&D for ITER and CIT Applications", Review Meeting of fusion materials R&D for ITER (TIBER) / CIT, St. Michaels, MD, June 1987

9. S.J. Zinkle, "Defect Production and Hardening in Neutron-Irradiated Copper", Fusion Reactor Materials Semiann. Prog. Report for period ending March 31, 1987, DOE/ER-0313/2, pp. 99-104

10. S.J. Zinkle, "Dual-Ion Irradiation of Copper", Fusion Reactor Materials Semiann. Prog. Report for period ending Sept. 30, 1987, DOE/ER-0313/3, pp. 86-89

11. K. Farrell and S.J. Zinkle, "Void Swelling and Defect Cluster Formation in Reactor-Irradiated Copper", Fusion Reactor Materials Semiann. Prog. Report for period ending Sept. 30, 1987, DOE/ER-0313/3, pp. 90-93

12. S.J. Zinkle, "Analysis of Copper and Copper Alloys after Low-level Tritium Charging", Fusion Reactor Materials Semiann. Prog. Report for period ending March 31, 1988, DOE/ER-0313/4, pp. 173-175

13. S.J. Zinkle, "Radiation Effects in Metals", Mechanical Engineering Dept. (Materials Engineering Curriculum), Auburn Univ., Nov. 20, 1988.

14. S.J. Zinkle and W.C. Oliver, "Materials Science Applications of the Mechanical Properties Microprobe", U.S.-Japan Workshop on Small Specimen Test Techniques, Tokyo, Feb. 17-18, 1988.

15. S.J. Zinkle, B.A. Chin, G.R. Rao, and H.T. Lin, "Development of a Miniaturized Bending Fatigue Test Machine", U.S.-Japan Workshop on Small Specimen Test Techniques, Tokyo, Feb. 17-18, 1988.

16. S.J. Zinkle, "Radiation Effects in Copper", Dept. of Precision Engineering, Hokkaido University, Sapporo, Japan, Feb. 20, 1988.

17. S.J. Zinkle, "Radiation Effects in Copper", Research Institute for Applied Mechanics, Kyushu University, Fukuoka, Japan, Feb. 22, 1988.

18. A.F. Rowcliffe and S.J. Zinkle, "Materials Scientific Data Base", Workshop on Requirements for an International Fusion Materials Irradiation Facility", San Diego, CA, March 23-24, 1988

19. S.J. Zinkle, "Neutron Environment and Bulk Irradiation Effects in Ceramics", Meeting of the Working Group on Ceramics Fabrication for Fusion, U.S. Dept. of Energy, Germantown, MD, April 7, 1988.

20. S.J. Zinkle and W.C. Oliver, "Recent Materials Science Studies Using the Mechanical Properties Microprobe", ORNL Metals and Ceramics Division Advisory Committee Meeting, Oak Ridge, TN, April 12, 1988.

21. S.J. Zinkle, "Microstructure and Hardness of Ion-Irradiated $MgAl_2O_4$", 90th Ann. Mtg. Amer. Ceramic Soc., Cincinnati, OH, May 1-5 1988

22. S.J. Zinkle, "Ion Irradiation of $MgAl_2O_4$", 14th Intern. Symposium on the Effects of Radiation on Materials, Andover, MD, June 27-29, 1988.

23. S.J. Zinkle, H.E. Kim and W.R. Allen, "Preparation and Characterization of Alumina Containing Enriched Oxygen Isotopes", Fusion Reactor Materials Semiann. Prog. Report for period ending Sept. 30, 1988, DOE/ER-0313/5, pp. 315-321

24. S.J. Zinkle, R.L. Beatty and E.E. Bloom, "Ceramics for Fusion Applications: Assessment of Requirements and Recommendations for Development", draft prepared for Fusion Technology Branch, Office of Fusion Energy, DOE (1989)

25. S. Kojima, S.J. Zinkle and H.L. Heinisch, Grain size effect on radiation hardening in neutron-irradiated polycrystalline copper, in Fusion Reactor Materials Semiannual Progress Report for Period ending March 31, 1989, DOE/ER-0313/6, , 1989, pp. 43-49.

26. H.M. Frost, J.C. Kennedy, T.N. Claytor, E.F. Brown, and S.J. Zinkle, "Ceramic Processing Aided by Millimeter-Wave Testing", Fusion Reactor Materials Semiann. Prog. Report for period ending Sept. 30, 1989, DOE/ER-0313/7, pp. 289-296

27. F.W. Clinard, Jr. and S.J. Zinkle, "Basic Understanding of Radiation Effects in Ceramics", Japan/U.S. Cooperative Planning Meeting P-149 on Evaluation of Radiation Damage in Ceramics and Graphite, University of Tokyo, Dec. 12-13, 1989

28. S.J. Zinkle and R.E. Stoller, "Computer Simulations for Evaluating Irradiation Effects in Ceramics", Japan/U.S. Cooperative Planning Meeting P-149 on Evaluation of Radiation Damage in Ceramics and Graphite, University of Tokyo, Dec. 12-13, 1989

29. S.J. Zinkle and F.W. Clinard, Jr., "Effect of Irradiation on the Structural Properties of Monolithic and Composite Ceramics", Japan/U.S. Cooperative Planning Meeting P-149 on Evaluation of Radiation Damage in Ceramics and Graphite, University of Tokyo, Dec. 12-13, 1989

30. S.J. Zinkle, "Neutron Irradiation Effects on the Structure and Physical Properties of Ceramics", Westinghouse Electric Corp., Bettis Atomic Power Lab., April 27, 1990

31. S.J. Zinkle and R.E. Stoller, "In-Situ Measurements of Electrical Properties of Irradiated Ceramics", IEA Workshop on In-Situ Measurements of Electrical Properties of Irradiated Ceramics, Los Alamos, NM, June 27-29, 1990

32. R.E. Stoller, S.J. Zinkle and R.H. Goulding, "Planned In-Situ Dielectric Measurements in Alumina", IEA Workshop on In-Situ Measurements of Electrical Properties of Irradiated Ceramics, Los Alamos, NM, June 27-29, 1990

33. S.J. Zinkle, "Microstructure and Electrical Properties of Irradiated Ceramics", US DOE Workshop on Radiation Effects on Materials in High Radiation Environments, Salt Lake City, Utah, Aug. 13-16, 1990

34. H.M. Frost, J.C. Kennedy, T.N. Claytor and S.J. Zinkle, "Millimeter-wave Testing of Isotopically Enriched Alumina", Fusion Reactor Materials Semiann. Prog. Report for Period ending Sept. 30, 1990, DOE/ER-0313/9, pp. 297-301

35. S.J. Zinkle, "Ion Beam Irradiation of Ceramics at Fusion-Relevant Conditions", TMS-AIME Symp. on Radiation Effects in Nonmetallic Materials, TMS-AIME Annual Meeting, New Orleans, Feb. 17-21, 1991 (invited)

36. S.J. Zinkle, R.H. Goulding, R.E. Stoller and K.R. Thoms, "ORNL Ceramic R&D Programs Relevant for Fusion Diagnostic Systems", Workshop on Radiation Effects in Materials for Fusion Diagnostic Systems, Princeton Plasma Physics Lab, Princeton, NJ, March 19-20, 1991

37. S.J. Zinkle, "Anomalous Microstructural Effects Associated with Light Ion Irradiation of Ceramics", DOE Task Force Meeting on Electrical Breakdown of Insulating Ceramics in a

High Radiation Field, Vail, CO, May 28-June 1, 1991, CONF-9105176, Y. Chen and F.W. Wiffen, Chairmen

38. R.E. Stoller, R.H. Goulding and S.J. Zinkle, "Measurement of Dielectric Properties in Ceramics under Ionizing and Displacive Irradiation Conditions", DOE Task Force Meeting on Electrical Breakdown of Insulating Ceramics in a High Radiation Field, Vail, CO, May 28-June 1, 1991, CONF-9105176, Y. Chen and F.W. Wiffen, Chairmen

39. S.J. Zinkle, "Microstructural Changes in Irradiated Copper", Materials Department Seminar, Riso National Lab., Roskilde, Denmark, June 4, 1991

40. S.J. Zinkle, "Effect of Irradiation on the Microstructure and Electrical Properties of Ceramics", Materials Department Seminar, Riso National Lab., Roskilde, Denmark, June 13, 1991

41. S.J. Zinkle, L.L. Snead and E.H. Farnum, "Irradiation of Conventional and Isotopically Tailored Ceramics in HFIR", Fusion Reactor Materials Semiann. Progress Report for Period ending March 31, 1991, DOE/ER-0313/10, pp. 314-316

42. S.J. Zinkle and L.L. Snead, "Irradiation of Ceramics in HFIR", Fusion Reactor Materials Semiann. Progress Report for Period ending March 31, 1991, DOE/ER-0313/10, pp. 317-319

43. S.J. Zinkle, R.H. Goulding, R.E. Stoller and K.R. Thoms, "Review of ORNL Radiation Effects Studies Relevant for Diagnostics Systems", ITER Workshop on Radiation Effects on Diagnostic Components, St. Petersburg, Russia, Oct. 14-17, 1991, ITER/SU/91/TE/DG-1 (November 1991)

44. S.J. Zinkle, "Radiation Damage Studies in Ceramics using Transmission Electron Microscopy", Institut für Festkörperforschung seminar, Forschungszentrum Jülich, Germany, Jan. 21, 1992

45. S.J. Zinkle, "Microstructural Changes in Irradiated Copper", Physics Division Seminar, Hahn-Meitner Institut, Berlin, Germany, February 24, 1992

46. S.J. Zinkle, "Effect of Ion Irradiation on the Microstructure and Electrical Properties of Ceramics", Departement de Physique des Materiax seminar, Universite Claude Bernard, Lyon, France, March 23, 1992

47. S.J. Zinkle, R.E. Stoller and R.H. Goulding, "Effect of Irradiation of the Microstructure and Electrical Properties of Ceramics", Metals and Ceramics Division Advisory Committee, Oak Ridge National Laboratory, August 12, 1992

48. S.J. Zinkle, "Microstructure of Ion-Irradiated Ceramics: Evidence for Ionization-Enhanced Diffusion", US-Japan Workshop on Dynamic Effects of Irradiation in Ceramics, Santa Fe, NM, November 11-14, 1992

49. S.J. Zinkle and W. Kesternich, "Electrical Conductivity of Ceramics During Extended Irradiation with an Applied Electric Field", US-Japan Workshop on Dynamic Effects of Irradiation in Ceramics, Santa Fe, NM, November 11-14, 1992

50. S.J. Zinkle, D.P. White, L.L. Snead, R.E. Stoller and R.H. Goulding, "ORNL Ceramics Research Program for ITER Diagnostics R&D", Princeton Plasma Physics Lab, January 12, 1993

51. S.J. Zinkle and W. Kesternich, "Electrical Conductivity of Ceramic Insulators During Extended Ion Irradiation with an Applied Electric Field", Fusion Reactor Materials Semiann. Progress Report for period ending March 31, 1993, DOE/ER-0313/14, pp. 437-446

52. S.J. Zinkle and L.R. Greenwood, "Summary of Ionizing and Displacive Irradiation Fields in Various Facilities", Fusion Reactor Materials Semiann. Progress Report for period ending March 31, 1993, DOE/ER-0313/14, pp. 74-78

53. S.J. Zinkle, "Effect of Irradiation Spectrum on the Microstructural Evolution in Oxide Ceramics", Fusion Reactor Materials Semiann. Progress Report for period ending March 31, 1993, DOE/ER-0313/14, pp. 426-436

54. S.J. Zinkle, "Effect of Irradiation on the Electrical Properties of Ceramic Insulators", Intern. Summer School on the Fundamentals of Radiation Damage, Univ. Illinois at Urbana-Champaign, August 1-12, 1993 (invited)

55. V.R. Barabash, S.A. Fabritsiev, A.S. Pokrovsky, S.J. Zinkle and F.A. Garner, "Description of a Cu Alloy Spectral-Tailoring Experiment in a Mixed Spectrum Reactor", 6th Intern. Conf. on Fusion Reactor Materials, Stresa, Italy, Sept. 27- Oct. 1, 1993

56. S.J. Zinkle, R.H. Goulding and R.E. Stoller, "In-Reactor Measurements of the Effects of Neutron and Gamma Radiation on the RF Dielectric Characteristics of Ceramic Insulators", 35th Annual Meeting of the American Physical Society Division of Plasma Physics, St. Louis, MO, November 1-5, 1993

57. S.J. Zinkle and E.H. Farnum, "US Program on Radiation Effects on Ceramic Insulators and High Power Feedthroughs", ITER Technical Meeting on Radiation Effects on In Vessel Components, Garching, Germany, November 15-19, 1993

58. R.H. Goulding, T.S. Bigelow, S.J. Zinkle, and R.E. Stoller, "Radiation Testing of Ceramic Vacuum Windows for High Power RF Feedthroughs", ITER Technical Meeting on Radiation Effects on In Vessel Components, Garching, Germany, November 15-19, 1993

59. S.J. Zinkle, "Effects of Ion Implantation and Neutron Irradiation on the Properties of Ceramic Insulators", Mechanical, Aerospace and Nuclear Engineering Department Seminar, University of California at Los Angeles, March 31, 1994

60. V.R. Barabash, S.A. Fabritsiev, F.A. Garner, A.S. Pokrovsky and S.J. Zinkle, "Tensile and Electrical Properties of Neutron-Irradiated Copper-Boron Alloys", 17th Intern. Symp. on Effects of Radiation on Materials, Sun Valley, ID, June 21-23, 1994, ASTM, D.S. Gelles et al., Eds.

61. J.D. Hunn, R.E. Stoller and S.J. Zinkle, "In-situ Measurement of Radiation Induced Conductivity of Thin Film Ceramics", 17th Intern. Symp. on Effects of Radiation on Materials, Sun Valley, ID, June 21-23, 1994, ASTM, D.S. Gelles et al., Eds.

62. S.J. Zinkle, "Microstructure of Irradiated Ceramics: Effects Of Irradiation Spectrum, Temperature And Gaseous Transmutants", Workshop on Radiation Resistant Ceramic Matrix Composites, Rensselaer Polytechnic Institute, Troy, New York, July 11-13, 1994

63. S.J. Zinkle, B.N. Singh and D.J. Edwards, "Effects of Intracascade Clustering on Defect Accumulation and Pattern Formation in Neutron Irradiated Copper and Nickel", International Workshop on Assessment of Fundamental Aspects of Radiation Damage Production and Accumulation in Metals and Alloys, Obninsk, Russia, September 12-16, 1994

64. A.V. Naberenkov, S.J. Zinkle and S.A. Fabritsiev, "Influence of Heavy Ion Irradiation on the Structure of Cu-B Alloys", in Microstructure of Irradiated Materials, Symposium Organizers I.M. Robertson, L.E. Rehn, S.J. Zinkle and W.J. Phythian, Materials Research Society 1994 Fall Meeting, Nov. 29-Dec. 1, 1994

65. S.A. Fabritsiev, A.S. Pokrovsky, S.J. Zinkle, A.F. Rowcliffe, B.N. Singh, F.A. Garner and D.J. Edwards, "Effect of Fission Neutron Irradiation on the Tensile and Electrical Properties of Copper and Copper Alloys", in Fusion Materials Semiann. Progress Report for period ending Sept. 30, 1994, DOE/ER-0313/17, pp. 221-228

66. S.J. Zinkle, "Irradiation Damage Aspects of Copper Alloys", Workshop on Copper Joining for ITER Applications, Argonne National Laboratory, Argonne, IL, January 26, 1995

67. S.J. Zinkle and L.L. Snead, "On the Susceptibility of Several Ceramics to Ion Beam Induced Amorphization at Room Temperature", Symposium on "Radiation Effects in Nonmetals", 124th Annual Meeting of The Minerals, Metals and Materials Society, Las Vegas, NV, February 13-14, 1995

68. L.L Snead, D.P. White, S.J. Zinkle and W.S. Eatherly, "In-situ Measurement of Radiation Induced Conductivity of Alumina During Fission Reactor Irradiation", Symposium on "Radiation Effects in Nonmetals", 124th Annual Meeting of The Minerals, Metals and Materials Society, Las Vegas, NV, February 13-14, 1995

69. J.D. Hunn, R.E. Stoller and S.J. Zinkle, "In-situ Measurement of the Electrical Conductivity of Thin Film Ceramics", Symposium on Radiation Effects in Nonmetals, 124th Annual Meeting of The Minerals, Metals and Materials Society, Las Vegas, NV, February 13-14, 1995

70. S.J. Zinkle, "Effect of Irradiation Spectrum on the Microstructural Evolution in Spinel and Alumina", Symposium on "Radiation Effects in Nonmetals", 124th Annual Meeting of The Minerals, Metals and Materials Society, Las Vegas, NV, February 13-14, 1995

71. S.J. Zinkle, "Proposed Reference Specimen Geometries and Test Matrix for the High-Flux Regions of IFMIF", 1st CDA Workshop on IFMIF Test Cell System, Forschungszentrum Karlsruhe, Germany, July 3-6, 1995

72. D.P. White, L.L. Snead and S.J. Zinkle, "Investigation of Radiation Induced Electrical Degradation Effects in Alumina During Neutron Irradiation", presented at 7th Intern. Conf. on Fusion Reactor Materials, Obninsk, Russia, Sept. 25-29, 1995.

73. S.J. Zinkle, "Effect of Irradiation Spectrum on the Microstructural Evolution in Ceramic Insulators", presented at 7th Intern. Conf. on Fusion Reactor Materials, Obninsk, Russia, Sept. 25-29, 1995.

74. S.J. Zinkle, "Effect of Irradiation Spectrum on the Microstructure of Irradiated Ceramics", Symposium on Point Defect and Radiation Damage Phenomena, Japan Institute of Metals 117th Annual Meeting (cosponsored by TMS), Honolulu, Hawaii, Dec. 13-15, 1995

75. D.J. Edwards, S.A. Fabritsiev, A.S. Pokrovsky, S.J. Zinkle, R.F. Mattas and R.D. Watson, "Status of ITER Task T213 Collaborative Irradiation Screening Experiment on Cu/SS Joints in the Russian Federation SM-2 Reactor", Fusion Materials Semiannual Progress Report for Period ending Dec. 31, 1995, DOE/ER-0313/19, pp. 165-175.

76. S.A. Fabritsiev, A.S. Pokrovsky, S.J. Zinkle, A.F. Rowcliffe, D.J. Edwards, F.A. Garner, V.A. Sandakov, B.N. Singh and V.R. Barabash, "Tensile and Electrical Properties of Copper Alloys Irradiated in a Fission Reactor", Fusion Materials Semiannual Progress Report for Period ending Dec. 31, 1995, DOE/ER-0313/19, pp. 177-188.

77. S.J. Zinkle and R.H. Goulding, "Loss Tangent Measurements on Unirradiated Alumina", Fusion Materials Semiannual Progress Report for Period ending Dec. 31, 1995, DOE/ER-0313/19, pp. 231-235.

78. R.H. Goulding and S.J. Zinkle, "Investigation of the Feasibility of In-situ Dielectric Property Measurements on Neutron-Irradiated Ceramic Insulators", Fusion Materials Semiannual Progress Report for Period ending Dec. 31, 1995, DOE/ER-0313/19, pp. 236-240.

79. W.S. Eatherly, D.W. Heatherly, M.T. Hurst, A.L. Qualls, D.G. Raby, R.G. Sitterson, L.L. Snead, K.R. Thoms, R.L. Wallace, D.P. White, S.J. Zinkle, E.H. Farnum, K. Scarborough, K. Shiiyama, T. Sagawa, M. Narui and T. Shikama, "Capsule Fabrication for In-situ Measurement of Radiation Induced Electrical Degradation (RIED) of Ceramics in HFIR", Fusion Materials Semiannual Progress Report for Period ending Dec. 31, 1995, DOE/ER-0313/19, pp. 241-248.

80. S.J. Zinkle, "Summary of the IEA Workshop on Radiation Effects in Ceramic Insulators", Fusion Materials Semiannual Progress Report for Period ending Dec. 31, 1995, DOE/ER-0313/19, pp. 258-261.

81. S.J. Zinkle, "Evidence for Ionization Enhanced Diffusion in Ion Irradiated Ceramic Insulators", Symposium on Radiation Materials Science in Technology Applications, 125th Annual Meeting of The Minerals, Metals and Materials Society, Anaheim, CA, Feb. 4-8, 1996

82. S.J. Zinkle, "CuNiBe Alloy Performance: Tensile Properties", presented at ITER Working Meeting on Materials and Joints for In-Vessel Components, Garching, Germany, May 13-16, 1996

83. L.L. Snead, D.J. Alexander and S.J. Zinkle, "Effect of Low Temperature Neutron Irradiation on the Tensile and Charpy Properties of V-4Cr-4Ti", presented at the IEA Workshop on Vanadium Alloys for Fusion Energy Applications, Petten, The Netherlands, May 20-22, 1996

84. S.J. Zinkle, T. Shikama, K. Shiiyama, E.H. Farnum, K. Scarborough, L.L. Snead, D.P. White, W.S. Eatherly, D.G. Raby, A.L. Qualls, D.W. Heatherly, R.G. Sitterson, R.L. Wallace, M. Narui and T. Sagawa, "In-situ Measurement of the Electrical Conductivity of Aluminum Oxide in HFIR", presented at the ITER Radiation Effects to Diagnostics Workshop, Garching, Germany, June 17-20, 1996

85. L.L. Snead, D.P. White, W.S. Eatherly and S.J. Zinkle, "In-situ Measurement of the Electrical Conductivity of Wesgo AL995 Al_2O_3 in HFBR", presented at the ITER Radiation Effects to Diagnostics Workshop, Garching, Germany, June 17-20, 1996

86. S.J. Zinkle, "Summary of Round Robin Measurements of Radiation Induced Conductivity in Wesgo AL995 Alumina", Fusion Materials Semiannual Progress Report for Period ending June 30, 1996, DOE/ER-0313/20, 272-274.

87. S.J. Zinkle, D.P. White, L.L. Snead, W.S. Eatherly, A.L. Qualls, D.W. Heatherly, R.G. Sitterson, R.L. Wallace, D.G. Raby, M.T. Hurst, E.H. Farnum, K. Scarborough, T. Shikama, M. Narui and K. Shiiyama, "In-situ Measurement of the Electrical Conductivity of Aluminum Oxide in HFIR", Fusion Materials Semiannual Progress Report for Period ending June 30, 1996, DOE/ER-0313/20, 257-266.

88. A.L. Qualls, W.S. Eatherly, D.W. Heatherly, M.T. Hurst, D.G. Raby, R.G. Sitterson, L.L. Snead, K.R. Thoms, R.L. Wallace and S.J. Zinkle, "Summary of the Irradiation History of the TRIST-ER1 Capsule", Fusion Materials Semiannual Progress Report for Period ending June 30, 1996, DOE/ER-0313/20, 267-271.

89. S.J. Zinkle and W.S. Eatherly, "Tensile and Electrical Properties of Unirradiated and Irradiated Hycon 3HP^{TM} CuNiBe", Fusion Materials Semiannual Progress Report for Period ending June 30, 1996, DOE/ER-0313/20, 207-216.

90. S.J. Zinkle, “Microstructures of Ion Irradiated Ceramics: Amorphization and Ionization Enhanced Diffusion”, presented at the LANL Center for Materials Science Summer Research Group on Ion Interaction and Radiation Damage, July 22-23, 1996

91. S.J. Zinkle, "Fundamental Radiation Effects Parameters in Metals and Ceramics” (invited), Kiritani symposium on Structural Defects in Advanced Materials, Inuyama, Japan, Dec. 18-20, 1996

92. S.J. Zinkle, A.N. Gubbi and W.S. Eatherly, “Electrical Resistivity of V-Cr-Ti Alloys”, Fusion Materials Semiannual Progress Report for Period ending December 31, 1996, DOE/ER-0313/21, 15-19.

93. A.F. Rowcliffe and S.J. Zinkle, “Assessment of the Radiation-Induced Loss of Ductility in V-Cr-Ti Alloys”, Fusion Materials Semiannual Progress Report for Period ending December 31, 1996, DOE/ER-0313/21, 63-72.

94. S.J. Zinkle, D.J. Alexander, J.P. Robertson, L.L. Snead, A.F. Rowcliffe, L.T. Gibson, W.S. Eatherly and H. Tsai, “Effect of Fast Neutron Irradiation to 4 DPA at 400˚C on the Properties of V-(4-5)Cr-(4-5)Ti Alloys”, Fusion Materials Semiannual Progress Report for Period ending December 31, 1996, DOE/ER-0313/21, 73-78.

95. S.J. Zinkle and W.S. Eatherly, “Effect of Test Temperature and Strain Rate on the Tensile Properties of High-Strength, High-Conductivity Copper Alloys”, Fusion Materials Semiannual Progress Report for Period ending December 31, 1996, DOE/ER-0313/21, 165-174.

96. D.J. Alexander, S.J. Zinkle and A.F. Rowcliffe, “Fracture Toughness of Copper-Base Alloys for ITER Applications: A Preliminary Report”, Fusion Materials Semiannual Progress Report for Period ending December 31, 1996, DOE/ER-0313/21, 175-182.

97. S.J. Zinkle, “Defect Production in Ceramics”, DOE Council on Materials Sciences Panel on Radiation Effects in Ceramic Phases Relevant to the Disposition of Nuclear Waste and Weapons Plutonium, Lihue, Hawaii, January 13-17, 1997

98. S.J. Zinkle and A.F. Rowcliffe, “Recent Results Obtained on Unirradiated and Irradiated Copper Alloys (ITER Task T213)”, Working Meeting on Development and Irradiation Testing of Copper Alloys and Bonded Materials, Garching, Germany, March 24-26, 1997

99. S.J. Zinkle and L.L. Snead, "Interstitial Migration Energies in Ceramics", 5th Symposium on Fabrication and Properties of Ceramics for Fusion Energy and Other High Radiation Environments, 99th Annual Meeting of the American Ceramic Society, Cincinnati, OH, May 5-7, 1997

100. S.J. Zinkle and G.P. Pells "Microstructure of Al_2O_3 and $MgAl_2O_4$ Irradiated at Low Temperature", 5th Symposium on Fabrication and Properties of Ceramics for Fusion Energy and Other High Radiation Environments, 99th Annual Meeting of the American Ceramic Society, Cincinnati, OH, May 5-7, 1997

101. S.J. Zinkle, T. Shikama, K. Shiiyama, E.H. Farnum, K. Scarborough, D.P. White, L.L. Snead, W.S. Eatherly, D.G. Raby, A.L. Qualls, D.W. Heatherly, R.G. Sitterson, R.L. Wallace, M. Narui and K. Shiiyama, "In-situ Measurement of the Electrical Conductivity of Aluminum Oxide in HFIR: Summary of the TRIST-ER1 Experiment", IEA Workshop on Radiation Effects in Ceramic Insulators, Cincinnati, OH, May 7-8, 1997, ORNL/M-6068.

102. S.J. Zinkle and J.P. Robertson, "Radiation Embrittlement of FCC Metals", ARIES Town Meeting on Designing with Brittle Materials, Madison, WI, June 19, 1997

103. S.J. Zinkle, J.P. Robertson, R.L. Klueh and A.F. Rowcliffe, "Radiation Embrittlement of BCC Metals", ARIES Town Meeting on Designing with Brittle Materials, Madison, WI, June 19, 1997

104. S.J. Zinkle, "Materials Selection Issues for High Wall Loading Concepts", APEX Study Meeting, UCLA, Los Angeles, CA, October 15-17, 1997

105. S.J. Zinkle, A.F. Rowcliffe, D.J. Edwards and J.F. Stubbins "Recent Data from U.S. Materials Program", ITER Materials Workshop, Garching, Germany, December 1-5, 1997

106. S.J. Zinkle, L.L. Snead, J.P. Robertson and A.F. Rowcliffe, "Strain Rate Dependence of the Tensile Properties of V-(4-5)Cr-(4-5)Ti Irradiated in EBR-II and HFBR", Fusion Materials Semiannual Progress Report for Period ending December 31, 1997, DOE/ER-0313/23, p.77-80.

107. S.J. Zinkle, "Thermophysical and Mechanical Properties of V-(4-5)Cr-(4-5)Ti Alloys", Fusion Materials Semiannual Progress Report for Period ending December 31, 1997, DOE/ER-0313/23, p. 99-108.

108. S.J. Zinkle and F.A. Garner, "Effect of Initial Oxygen Content on the Void Swelling Behavior of Fast Neutron Irradiated Copper", Fusion Materials Semiannual Progress Report for Period ending December 31, 1997, DOE/ER-0313/23, p. 226-228.

109. S.J. Zinkle and A. El-Azab, "Structural Materials Database and Operating Temperature Limits", APEX Study Meeting, UCLA, Los Angeles, CA, January 12-14, 1998

110. S.J. Zinkle, "Overview of Radiation Effects in Fusion Materials", Fusion Energy Sciences Advisory Committee (FESAC) Review of Fusion Materials Program, Pittsburgh, PA, March 2, 1998

111. S.J. Zinkle and L.L. Snead, "Interstitial Migration Energies in Ceramics", American Ceramic Society Symposium on Point Defects and Defect-Related Phenomena, Cincinnati, Ohio, May 4-7, 1998

112. S.J. Zinkle and N.M. Ghoniem, "Status of Recent Activities by the APEX Materials Group and Chemical Compatibility and Radiation Effects Issues in High Temperature Refractory Metals", APEX Study Meeting, UCLA, Los Angeles, CA, May 6-8 , 1998

113. S.J. Zinkle, "Fusion Materials Research and Development Activities at Oak Ridge National Laboratory", ENEA-Frascati national research center, Frascati (Rome), Italy, June 10, 1998

114. S.J. Zinkle, A.F. Rowcliffe, L.L. Snead, D.J. Alexander and M.L. Grossbeck, "Physical Metallurgy of Vanadium Alloys", 19th ASTM Symposium on Effects of Radiation on Materials, Seattle, WA, June 16-18, 1998

115. D.J. Alexander, S.J. Zinkle and A.F. Rowcliffe, "Fracture Toughness of Copper-Base Alloys for Fusion Energy Applications", 19th ASTM Symposium on Effects of Radiation on Materials, Seattle, WA, June 16-18, 1998

116. J. Gazda, M. Meshii, H.M. Chung and S.J. Zinkle, "Slip Localization by Dislocation Channeling in Low Temperature Irradiated Vanadium Base Alloys", 19th ASTM Symposium on Effects of Radiation on Materials, Seattle, WA, June 16-18, 1998

117. S.J. Zinkle and L.L. Snead, Thermophysical and mechanical properties of SiC/SiC composites, in Fusion Materials Semiann. Prog. Report for period ending June 30 1998, DOE/ER-0313/24, Oak Ridge National Lab, 1998, pp. 93-100.

118. S.J. Zinkle, J.P. Robertson and R.L. Klueh, Thermophysical and mechanical properties of Fe-(8-9%)Cr reduced activation steels, in Fusion Materials Semiann. Prog. Report for period ending June 30 1998, DOE/ER-0313/24, Oak Ridge National Lab, 1998, pp. 135-143.

119. S.J. Zinkle, "Materials Challenges for Fusion Energy"(invited), National Academy of Engineering Annual Symposium: Materials-The Opportunity, Washington DC, October 6, 1998, edited transcript published in The Bridge 28, No. 4 (Dec., 1998) 19-23.

120. S.J. Zinkle and N.M. Ghoniem, "Is Dislocation Patterning a General Phenomenon in FCC Metals", MRS Symposium L: Interaction of Phase and Defect Microstructures in Metallic Alloys, Eds. O. Richmond, L.P. Kudin, J.E. Morral, L-Q Chen and M.V. Glazov, Boston, MA, Nov. 30-Dec. 4, 1998

121. S.J. Zinkle, "Defect Accumulation and Mechanical Property Changes in Irradiated Metals: Multiscale Phenomena", Lawrence Livermore National Lab seminar, February 18, 1999.

122. S.J. Zinkle and L.T. Gibson, "Electrical Conductivity and Tensile Properties of Copper and Oxide Dispersion Strengthened Copper Alloys Following HFIR Irradiation to 13 dpa at 200 and 400°C", in Fusion Materials Semiann. Prog. Report for period ending Dec. 31, 1999, DOE/ER-0313/27, Oak Ridge National Lab, 2000, pp. 163-174.

123. S.J. Zinkle, "Thermophysical and Mechanical Properties of Fa-8%W-2%Hf", in Fusion Materials Semiann. Prog. Report for period ending Dec. 31, 1999, DOE/ER-0313/27, Oak Ridge National Lab, 2000, pp. 175-182.

124. S.J. Zinkle, "Tensile Properties of High-Strength, High-Conductivity Copper Alloys at High Temperatures", in Fusion Materials Semiann. Prog. Report for period ending June 30 2000, DOE/ER-0313/28, Oak Ridge National Lab, 2000, pp. 171-175.

125. S.J. Zinkle, "Overview of the Fusion Materials Science Program"(invited), Virtual Laboratory for Technology Program Advisory Committee meeting, UCLA, December 4, 2000.

126. S.J. Zinkle, "Materials Science Challenges in the Quest for Fusion Energy", Frontiers of Chemistry and Materials Science seminar series, Lawrence Livermore National Lab, January 8, 2001.

127. S.J. Zinkle, "Overview of the Fusion Materials Science Program"(invited), Fusion Energy Sciences Advisory Committee meeting, Gaithersburg, MD, February 27, 2001.

128. S.J. Zinkle, "Frontiers of Fusion Materials Science"(invited), Office of Fusion Energy Sciences Budget meeting, Gaithersburg, MD, March 13, 2001

129. S.J. Zinkle, "Potential Materials Science Benefits from a Burning Plasma Science Experiment",(invited) Burning Plasma Science Workshop II, General Atomics, San Diego, CA, May 1-3, 2001

130. S.J. Zinkle, "Special Purpose Fission Technology (SPFT) Technology Assessment Status Report" DOE SPFT workshop, Oak Ridge, TN, May 14-15, 2001.

131. S.J. Zinkle and L.L. Snead, "ORNL Research on SiC and Inert-Matrix Fuel Composites", CEA-DOE meeting on Advanced Reactor Materials, ORNL, July 2-3, 2001.

132. S.J. Zinkle, "Special Purpose Fission Technology (SPFT) Technology Assessment Status Report" DOE SPFT workshop, Argonne National Lab, August 1-2, 2001.

133. S.J. Zinkle, "Overview of the Fusion Materials Sciences Program", DOE Office of Fusion Energy Sciences peer review, August 27-28, 2001, Santa Barbara, CA.

134. S.J. Zinkle, "Fusion Materials Sciences Welding and Compatibility Program", DOE Office of Fusion Energy Sciences peer review, August 27-28, 2001, Santa Barbara, CA.

135. S.J. Zinkle, "Performance metrics and Concluding Comments on the Fusion Materials Sciences Program", DOE Office of Fusion Energy Sciences peer review, August 27-28, 2001, Santa Barbara, CA.

136. S.J. Zinkle, J.J. Carbajo, L.J. Ott, R.T. Wood, D.T. Ingersoll, R.J. Ellis, M.L. Grossbeck and J.F. King, "Space fission technology assessment report: Surface power and nuclear electric propulsion technologies, with a focus on a 3 kWe heatpipe/Stirling concept for Mars surface power applications", Oak Ridge National Laboratory Report ORNL/SPFT/LTR-004, Rev. 3, (Sept. 12, 2002), 73pp.

137. D.T. Hoelzer, S.J. Zinkle, R.A. Peascoe, M.K. West and G.M Pharr, "Formation of Nano-size Grains and Layered Structure in Y_2O_3 Dispersed Fe-Cr Alloys during Ball Milling", Symposium on High-Speed Plastic Deformation, Hiroshima Institute of Technology, Jan. 9-11, 2002.

138. S.J. Zinkle, L.J. Ott, D.T. Ingersoll, R.J. Ellis and M.L. Grossbeck, "Overview of materials technologies for space nuclear power and propulsion", M.S. El-Genk, ed., Space Technology and Applications International Forum-STAIF 2002 (AIP Conf. Proc. vol. 608), American Institute of Physics, 2002, pp. 1063-1074.

139. S.J. Zinkle, "Comments on Potential Contributions of Current and Planned US Spallation Neutron Sources to Fusion Materials Development", IEA Workshop on Spallation-based Neutron Sources for Fusion Materials Irradiation Studies, San Diego, April 12, 2002.

140. S.J. Zinkle, "Fundamentals of Radiation Effects in Ceramics and Glasses" (invited), Symposium on Ion Beam Processing and Modification of Glasses and Ceramics, 104th Annual Meeting of the American Ceramic Society, St. Louis, MO, April 29-30, 2002.

141. S.J. Zinkle, "Scientific and Engineering Advances in Fusion Materials", Princeton Plasma Physics Laboratory colloquium, May 22, 2002.

142. T. Allen, S. Bruemmer, J. Elmer, M. Kassner, A. Motta, R. Odette, R. Stoller, G. Was, W. Wolfer and S. Zinkle, "Higher Temperature Reactor Materials Workshop", ANL-02/12, June 2002, 58 pp. (summary of the DOE NE/BES Workshop, La Jolla, CA, March 18-21, 2002)

143. S.J. Zinkle, B.N. Singh and D.J. Edwards, "Origin and Evolution of Flow Localization in Metals: Assessment of Experimental Observations"(invited), 1st International Conference on Multiscale Materials Modeling, Queen Mary, University of London, UK, June 17-20, 2002.

144. S.J. Zinkle, "An Overview of Low to Intermediate Temperature Microstructural Evolution Processes in V-4Cr-4Ti and Reduced Activation Ferritic/martensitic Steels", Fusion Materials Sciences Program Strategic Planning Meeting, Univ. California-Santa Barbara, Aug. 26-30, 2002.

145. S.J. Zinkle and D.J. Edwards, "Flow Localization and Channeling in Irradiated Alloys", Fusion Materials Sciences Program Strategic Planning Meeting, Univ. California-Santa Barbara, Aug. 26-30, 2002.

146. S.J. Zinkle, "A Development Strategy for Fusion First Wall and Blanket Materials and Structures", Fusion Materials Sciences Program Strategic Planning Meeting, Univ. California-Santa Barbara, Aug. 26-30, 2002.

147. S.J. Zinkle, K. Farrell, N. Hashimoto and T.S. Byun, "Review of Experimental Studies of Deformation Mechanisms in Irradiated Metals"(invited), 2nd IEA Fusion Materials Workshop on Modeling and Experimental Validation, Les Diablerets, Switzerland, Sept. 30-Oct. 4, 2002.

148. S.J. Zinkle, "Structural Materials Development for MFE and IFE"(invited), Fusion Energy Sciences Advisory Committee development path panel meeting, Livermore, CA, Oct. 28, 2002.

149. S.J. Zinkle and T. Muroga, "Structural Materials R&D for Fusion Energy Applications"(invited plenary), American Nuclear Society topical meeting on Technology of Fusion Energy, Washington DC, November 18-21, 2002.

150. S.J. Zinkle, "Fusion Materials Development for MFE and IFE: Mission, Performance Measures and Cost Profile",(invited) Fusion Energy Sciences Advisory Committee Development Path Panel meeting, General Atomics, La Jolla, CA Jan. 17, 2003.

151. S.I. Golubov, R.E. Stoller and S.J. Zinkle, "Nucleation and Growth of Helium-Vacancy Clusters in Irradiated Metals, Part I: A Group Method for an Approximate Solution of Two Dimensional Kinetic Equations Describing Evolution of Point Defect Clusters", Fusion Materials Semiannual Progress Report for Period ending December 31, 2002, DOE/ER-0313/33, p. 155-180.

152. S.J. Zinkle and F.W. Wiffen, "Status of Nb-1Zr Technology for Space Reactor Applications", M.S. El-Genk, ed., Space Technology and Applications International Forum-STAIF 2003, Albuquerque, NM, Feb. 2-5, 2003.

153. S.J. Zinkle, "Proposed Near-term Technology Development Activities for Cladding, Structural, Reflector, and Shield Materials, DOE Laboratory Planning Meeting for Space Reactor Propulsion System Support, Sandia National Lab, Feb. 6, 2003.

154. S.J. Zinkle, "Overview of Scientific and Engineering Advances in Fusion Materials", Naval Research Laboratory colloquium, April 30, 2003.

155. S.J. Zinkle and B.D. Wirth, "The U.S. Fusion Materials Sciences Program: Overview and Potential Contributions of Spallation Neutron Sources", invited briefing for Dr. Raymond Orbach, Director, DOE Office of Science, Washington DC, May 19, 2003.

156. S.J. Zinkle, and G.E. Lucas "Deformation and Fracture Mechanisms in Irradiated FCC and BCC Metals", Fusion Materials Semiannual Progress Report for Period ending June 30, 2003, DOE/ER-0313/34, pp. 101-125.

157. M. Li, D.T. Hoelzer and S.J. Zinkle, "Electrical Resistivity Data of Vanadium Alloys in the RB-17J Experiment", Fusion Materials Semiannual Progress Report for Period ending June 30, 2003, DOE/ER-0313/34, pp. 2-5.

158. S.J. Zinkle, "Overview of Recent Scientific and Engineering Advances in Structural Materials for Fusion Energy", University of Michigan Nuclear Engineering and Radiological Sciences Department colloquium, September 20, 2003.

159. S.J. Zinkle, "Overview of Recent Scientific and Engineering Advances in Structural Materials for Fusion Energy", University of Wisconsin Engineering Physics Department colloquium, September 23, 2003.

160. S.J. Zinkle, "Nonfissile Ceramics for Future Nuclear Reactors" (invited), American Nuclear Society Winter Meeting embedded topical: Global 2003, New Orleans, LA, Nov. 17-20 2003, extended abstract published in ANS Transactions (2003).

161. S.J. Zinkle, F.W. Wiffen, P.F. Tortorelli, J.R. DiStefano, T.E. McGreevy, M.L. Santella, and G.R. Romanoski, "Overview of Reactor Module Materials Issues", DOE reactor module peer review for the Jupiter Icy Moons Orbiter space reactor project, Los Alamos, NM, Jan. 12-15, 2004.

162. S.J. Zinkle and F.W. Wiffen, "Radiation Effects in Refractory Alloys", M.S. El-Genk, ed., Space Technology and Applications International Forum-STAIF 2004, Albuquerque, NM, Feb. 8-12, 2004 (AIP Conf. Proc. vol. 699), American Institute of Physics, 2004, 733-740.

163. S.J. Zinkle, "Fusion and Spallation Irradiation Conditions"(invited), International Workshop on Advanced Computational Materials Science: Application to Fusion and Generation-IV Fission Reactors, Washington DC, March 31-April 2, 2004.

164. R.E. Stoller, S.J. Zinkle, J.A. Nichols and W.R. Corwin, organizers, Report on the Workshop on Advanced Computational Materials Science: Application to Fusion and Generation-IV Fission Reactors, Washington DC, March 31-April 2, 2004, ORNL/TM-2004/132, June 30, 2004, 68 pp.

165. S.J. Zinkle, "Overview of US Fusion Materials Research Program", presentation to DOE Energy Materials Coordinating Committee, Germantown, MD, April 22, 2004.

166. S.J. Zinkle, "Overview of US Fusion Materials Research Program"(invited panelist), NSF Workshop on Computational Nanomechanics of Materials, Chicago, IL, April 26-27, 2004.

167. S.J. Zinkle, "National Needs in Nanomechanics: Structural Materials"(invited panelist), NSF Workshop on Computational Nanomechanics of Materials, Chicago, IL, April 26-27, 2004.

168. W. Corwin, L. Snead, S. Zinkle, R. Nanstad, A. Rowcliffe, L. Mansur, R. Swindeman, W. Ren, D. Wilson, T. McGreevy, P. Rittenhouse, J. Klett, T. Allen, J. Gian, and K. Weaver, "The Gas Fast Reactor (GFR) Survey of Materials Experience and R&D Needs to Assess Viability", ORNL/TM-2004/99 (Oak Ridge National Lab, April 30, 2004) 53 pp.

169. S.J. Zinkle, P.F. Tortorelli, F.W. Wiffen, M.L. Santella, T.E. McGreevy, D.T. Hoelzer, G.R. Romanoski, and E.K. Ohriner, "Materials Development and Testing for the JIMO Reactor and Power Conversion System", Naval Reactors Prime Contractor Team meeting, Bettis Laboratory, West Mifflin, PA, May 10-11, 2004.

170. S.J. Zinkle, Y. Matsukawa, N. Hashimoto and T.S. Byun, "Experimental Investigations of Deformation Mechanisms in Irradiated Metals", Fusion Materials Modeling Workshop, Princeton University, June 14, 2004.

171. S.J. Zinkle and F.W. Wiffen, "Overview of Radiation Effects in Refractory Alloys for Space Reactor Applications", American Nuclear Society Annual Meeting Embedded Topical: International Congress on Advances in Nuclear Power Plants (ICAPP 2004), June 13-16, 2004, Pittsburgh, PA.

172. S.J. Zinkle, "Space Reactor Materials", DOE-NE Space Reactor Technology Program Integrated Research, Development and Demonstration Plan Workshop, Albuquerque, NM, July 13-15, 2004.

173. S.J. Zinkle, "Microstructure Evolution in Irradiated Metals and Alloys: Fundamental Aspects" (invited), NATO Advanced Study Institute Course on Radiation Effects in Solids (32nd Course of the International School of Solid State Physics), Erice, Sicily, Italy, July 17-29, 2004.

174. S.J. Zinkle, "Physical Properties of Irradiated Semiconductors and Ceramic Insulators" (invited), NATO Advanced Study Institute Course on Radiation Effects in Solids (32nd Course of the International School of Solid State Physics), Erice, Sicily, Italy, July 17-29, 2004.

175. S.J. Zinkle, "Mechanical Property Changes in Metals due to Irradiation"(invited), NATO Advanced Study Institute Course on Radiation Effects in Solids (32nd Course of the International School of Solid State Physics), Erice, Sicily, Italy, July 17-29, 2004.

176. S.J. Zinkle, "Overview of Fusion Materials Sciences Program", Fusion Materials Sciences Program Strategic Planning Meeting, University of California-Berkeley, August 24-25, 2004.

177. S.J. Zinkle and Y.N. Osetsky, "Multiscale Modeling Challenges for Fusion Reactor Materials" (invited), proceedings of the 2nd International Conference on Multiscale Materials Modeling, Los Angeles, CA, October 12-15, 2004, N.M. Ghoniem, Ed. (UCLA, 2004) 18-20.

178. Y. Matsukawa, Y.N. Osetsky, R.E. Stoller and S.J. Zinkle, "Effect of Obstacle Size on the Collapse of SFT by Interaction with Gliding Dislocations", proceedings of the 2nd International Conference on Multiscale Materials Modeling, Los Angeles, CA, October 12-15, 2004, N.M. Ghoniem, Ed. (UCLA, 2004) 343-345.

179. Y.N. Osetsky, R.E. Stoller, Y. Matsukawa and S.J. Zinkle, "Dislocation-stacking fault tetrahedra interaction: A comparison between in situ experiments and atomic-scale modeling", proceedings of the 2nd International Conference on Multiscale Materials Modeling, Los Angeles, CA, October 12-15, 2004, N.M. Ghoniem, Ed. (UCLA, 2004) p. 358.

180. A.F. Rowcliffe, D.T. Hoelzer and S.J. Zinkle, Critical review of solubility, diffusivity and metallurgical effects in Group V and VI metals, Oak Ridge National Lab, Oak Ridge, TN Report ORNL/LTR/NR-JIMO/04-01, 2004, 91 pp.

181. S.J. Zinkle, F.W. Wiffen and J.R. DiStefano, Historical basis for selection of Nb-1Zr cladding for space reactor applications, Oak Ridge National Lab, Oak Ridge, TN Report ORNL/LTR/NR/04-05, 2004, pp. 1-59.

182. S.J. Zinkle, J.R. DiStefano, C.E. Duty, R.L. Klueh, K.J. Leonard, E.K. Ohriner, S.J. Pawel, A.F. Rowcliffe, P.F. Tortorelli and F.W. Wiffen, Critical Assessment of Structural Materials for Space Nuclear Applications, Oak Ridge National Lab, Oak Ridge, TN Report ORNL/LTR/NR-JIMO/04-08, 2004, pp. 1-256.

183. S.J. Zinkle, "Materials Science Challenges in Fusion and Advanced Fission Reactors"(invited), Symposium on the Accelerated Implementation of Materials and Processes, The Minerals, Metals and Materials (TMS) Fall Meeting, New Orleans, LA, Sept. 27-29, 2004.

184. S.J. Zinkle, "Multiscale Modeling Challenges for Fusion Reactor Materials"(plenary invited talk), 2nd International Conference on Multiscale Materials Modeling, Los Angeles, CA, October 11-15, 2004.

185. S.J. Zinkle, "Structural Materials for Terrestrial and Space Nuclear Applications" (invited), ASM International Materials Solutions Meeting, Frontiers of Materials Science and Engineering Symposium, Columbus, OH, Oct. 18-20, 2004.

186. S.R. Greene, G.T. Mays, D.F. Williams, D.T. Ingersoll, K.M. Chidester, S.J. Zinkle and R.T. Wood, "Moving Out!–An Integrated Research, Development and Demonstration Plan (IRDDP) for Space Power and Propulsion Reactor Technology", ORNL/TM-2004/219 (Nov. 2004), 181 pp.

187. L.L. Snead and S.J. Zinkle, "Use of Beryllium and Beryllium Oxide in Space Reactors", M.S. El-Genk, ed., Space Technology and Applications International Forum-STAIF 2005, Albuquerque, NM, Feb. 14-17, 2005 (AIP Conf. Proc. vol. 746), American Institute of Physics, 2005, 768-775.

188. S.J. Zinkle, "Overview of Materials for Space Nuclear Power and Propulsion", North Carolina State University Nuclear Engineering Department Colloquium, Raleigh, NC, April 7, 2005.

189. S.J. Zinkle, "Materials for Space Reactor Applications" (invited), Symposium on Materials for Extreme Environments, ASM International (eastern NY chapter) and TMS (Hudson-Mohawk chapter) Spring Symposium, GE Global Research Center, Niskayuna, NY, May 23-24, 2005.

190. S.J. Zinkle, "Irradiation Spectrum and Ionization Induced Diffusion Effects in Ceramics" (invited), in 6th International Symposium on Swift Heavy Ions in Matter, Aschaffenburg, Germany, May 28-31, 2005.

191. S.J. Zinkle, "Advanced Structural Materials for Nuclear Power Applications" (invited), Symposium N: Nuclear Materials, European Materials Research Society Spring Meeting, Strasbourg, France, May 31-June 3, 2005.

192. S.J. Zinkle, F.W. Wiffen, J.T. Busby and L.L. Snead, "Radiation Effects in Refractory Alloys", American Nuclear Society Annual Meeting Embedded Topical: Space Nuclear Power 2005, San Diego, CA, June 7-9, 2005.

193. J.T. Busby, E.K. Ohriner, L.L. Snead, F.W. Wiffen, S.J. Zinkle, R.F. Luther, R.E. Gold and R.W. Buckman, "Molybdenum-Rhenium Alloys for Spacecraft Reactor Applications", American Nuclear Society Annual Meeting Embedded Topical: Space Nuclear Power 2005, San Diego, CA, June 7-9, 2005.

194. C.E. Duty, S.J. Zinkle, R.F. Luther, R.E. Gold, R.W. Buckman and Y.A. Ballout, "The Potential of Tantalum Alloys for Space Nuclear Applications", American Nuclear Society Annual Meeting Embedded Topical: Space Nuclear Power 2005, San Diego, CA, June 7-9, 2005.

195. K.J. Leonard, C.E. Duty, S.J. Zinkle, R.F. Luther, R.E. Gold, and R.W. Buckman, "Niobium-Base Alloys for Space Nuclear Applications", American Nuclear Society Annual Meeting Embedded Topical: Space Nuclear Power 2005, San Diego, CA, June 7-9, 2005.

196. T.E. McGreevy, C.E. Duty, K.J. Leonard, F.W. Wiffen and S.J. Zinkle, "The Mechanical Behavior of Nb-1Zr", American Nuclear Society Annual Meeting Embedded Topical: Space Nuclear Power 2005, San Diego, CA, June 7-9, 2005.

197. S.J. Zinkle, "Deformation of Irradiated Materials", Workshop on Fundamental Aspects of Radiation Damage, Risoe National Laboratory, July 14-16, 2005, Roskilde, Denmark.

198. A. Möslang and S.J. Zinkle, "Structural Materials for Fusion Power Plants: State-of-the-Art, Prospects and Critical Issues" (invited), 1st IAEA Technical Meeting on First Generation of Fusion Power Plants–Design and Technology, Vienna, Austria, July 5-7, 2005.

199. J.T. Busby, K.J. Leonard, J.R. Mayotte and S.J. Zinkle, "Characterization of Annealed and Aged Refractory Alloys–A First Progress Report", ORNL/LTR/NR-PROM1/05-22, August 2005, 57 pp.

200. R.J. Kurtz and S.J. Zinkle, "Structural Materials R&D for ITER Test Blanket Modules", US ITER Test Blanket Module meeting, Idaho Falls, ID, Aug. 10-12, 2005.

201. B.A. Pint, P.F. Tortorelli and S.J. Zinkle, "Comments on Corrosion R&D Needs for the Dual Coolant Lead-Lithium Module", US ITER Test Blanket Module meeting, Idaho Falls, ID, Aug. 10-12, 2005.

202. S.J. Zinkle, "Overview of Fusion Materials Sciences Program", DOE Office of Fusion Energy Sciences Strategic Planning Meeting for Fusion Materials Sciences Program, Germantown, MD, Aug. 23-24, 2005.

203. J.T. Busby, K.J. Leonard, and S.J. Zinkle, "Refractory Metals Irradiation Testing in HFIR", ORNL/LTR/NR-PROM1/05-27, September 2005, 133 pp.

204. K.J. Leonard, J.T. Busby, D.T. Hoelzer, J.R. Mayotte, K.A. Thomas, J.W. Jones and S.J. Zinkle, "Microstructural Characterization of Annealed and Aged Refractory Alloys", ORNL/LTR/NR-PROM1/05-35, November 2005, 177 pp.

205. J.T. Busby, K.J. Leonard, and S.J. Zinkle, "Effects of Neutron Irradiation on Refractory Metal Alloys", ORNL/LTR/NR-PROM1/05-38, December 2005, 348 pp.

206. S.J. Zinkle, "Application of Computational Materials Science Multiscale Modeling to Fission Reactors", Workshop on Advanced Simulations: A Critical Tool for Future Nuclear Fuel Cycles, Lawrence Livermore National Laboratory, Dec. 14-16, 2005.

207. S.J. Zinkle, "ORNL R&D on Materials for High Temperature Nuclear Reactor Applications", Commissariat a l'Energie Atomique Saclay Center Department of Nuclear Engineering seminar, Gif-sur-Yvette, France, February 15, 2006.

208. S.J. Zinkle, "Advanced Structural Materials for Nuclear Power Systems", Rensselaer Polytechnic Institute Department of Mechanical, Aerospace and Nuclear Engineering colloquium, February 24, 2006.

209. S.J. Zinkle, "Advanced Structural Materials for Nuclear Power Applications", Bechtel Bettis colloquium, West Mifflin, PA, May 24, 2006.

210. S.J. Zinkle, J.T. Busby, K.J. Leonard, L.L. Snead, D.T. Hoelzer, T.S. Byun and M. Li, "Refractory Alloys for Nuclear Applications", International Conference on Nuclear Fuels and Structural Materials for the Next Generation Nuclear Reactors, Embedded Topical Meeting at the 2006 American Nuclear Society Annual Meeting, Reno, NV, June 4-8 2006, pp.

211. J. Marra, J. Carmack, C.H. Henager, Jr., W. Lee, K. Sickafus, C. Stanek, L.L. Snead and S.J. Zinkle, "The Role of Ceramics in a Resurgent Nuclear Industry", 1st International Congress on Ceramics, Toronto, Canada, June 25-29, 2006.

212. S.J. Zinkle, "Overview of the Materials Science and Technology Division at Oak Ridge National Laboratory", Department of Materials Science and Engineering Colloquium, University of Illinois, Urbana-Champagne, IL, June 29, 2006.

213. S.J. Zinkle, "Frontiers in materials research for advanced nuclear energy systems", invited plenary talk for BES workshop on basic research needs for advanced nuclear energy systems, Washington DC, July 31-Aug. 2, 2006.

214. S.J. Zinkle, “Development of Structural Materials for Advanced Nuclear Power Applications”, Oak Ridge Chapter of ASM International monthly meeting, Washington DC, Sept. 21, 2006.