

## Publications – Stuart Andrew Maloy

**S.A. Maloy**, A.H. Heuer, J.J. Lewandowski, and J.J. Petrovic, "Carbon Additions to MoSi<sub>2</sub>: Improved High Temperature Properties", *J. Amer. Cer. Soc.*, 74(10), 2704–2706 (1991)

**S.A. Maloy**, "A TEM Study of Slip Systems in MoSi<sub>2</sub>/WSi<sub>2</sub> Alloys:", EMSA Proceedings, 49th Annual Meeting, Edited by G.W. Bailey and E.L. Hall, San Francisco Press, p. 942, (1991).

**S.A. Maloy**, J.J. Lewandowski, A.H. Heuer and J.J. Petrovic, "The Effect of Carbon Additions on the Mechanical Properties of MoSi<sub>2</sub>", *Mater. Sci. and Engrg.*, A155, 159–163 (1992).

T.E. Mitchell, R.G. Castro, J.J. Petrovic, **S.A. Maloy**, O. Unal, and M.M. Chadwick, "Dislocations, Twins, Grain Boundaries and Precipitates in MoSi<sub>2</sub>" *Mater. Sci. and Engrg.*, A155, 241–249 (1992).

**S.A. Maloy**, A.H. Heuer, J.J. Lewandowski, and T.E. Mitchell, "On the Slip Systems in MoSi<sub>2</sub>", *Acta Metall. Mater.*, 40(11), 3159–3165, (1992).

**S.A. Maloy**, S-Q Xiao, A.H. Heuer, and J. Garrett, "Precipitation of Mo<sub>5</sub>Si<sub>3</sub> in MoSi<sub>2</sub>", *J. Mater. Res.*, 8(5), 1079–1085, (1993).

N. Jacobson, K. Lee, **S.A. Maloy**, and A.H. Heuer, " Chemical Reactions in Processing of MoSi<sub>2</sub> + Carbon Powders", *J. Amer. Cer. Soc.*, 76(8), 2005–2009 (1993).

**S.A. Maloy**, T.E. Mitchell, J.J. Lewandowski, and A.H. Heuer, "{103}<331> Slip in MoSi<sub>2</sub>", *Phil. Mag. Lett.*, 67(5), 313–321 (1993).

**S.A. Maloy** and T.E. Mitchell, "Dislocation Decomposition and Dissociation in MoSi<sub>2</sub>", *EMSA Proceedings*, (1993).

T.E. Mitchell and **S.A. Maloy**, "Plastic Anisotropy in MoSi<sub>2</sub> Single Crystals", in *Critical Issues in the Development of High Temperature Structural Materials*, ed. by N.S. Stoloff, D.J. Duquette and A.F. Giamei, TMS, 279–290, (1993).

D.P. Butt, **S.A. Maloy**, H. Kung, D.A. Korzekwa, and J.J. Petrovic, "Creep Behavior of MoSi<sub>2</sub>-SiC Composites", *Mat. Res. Soc. Symp. Proc.*, Vol. 322, 197–202 (1994).

**S.A. Maloy**, T.E. Mitchell, J.J. Petrovic, A.H. Heuer, and J.J. Lewandowski, "The Temperature and Strain Rate Dependence of the Flow Stress in MoSi<sub>2</sub> Single Crystals", *Mat. Res. Soc. Symp. Proc.*, Vol. 322, pp. 21–26, (1994).

T.E. Mitchell and **S.A. Maloy**, "Structure of Dislocations in MoSi<sub>2</sub>", ELECTRON MICROSCOPY 1994, VOLS 2A AND 2B : APPLICATIONS IN MATERIALS SCIENCES, p.89–90 (1994).

**S.A. Maloy**, T.E. Mitchell, and A.H. Heuer, "High Temperature Plastic Anisotropy in MoSi<sub>2</sub> Single Crystals", *Acta Metall. and Mater.* Vol. 43, no. 2, pp. 657–688, (1994).

**S.A. Maloy**, G.T. Gray III, and R. Darolia, "High Strain Rate Deformation of NiAl", *Mat. Sci. and Engrg.*, vol. A192/193, pp. 249–254 (1995).

F. Chu, M. Lei, **S.A. Maloy**, T.E. Mitchell, A. Migliori, and J. Garrett, "Single Crystal Elastic Constants of NbSi<sub>2</sub>", *Phil. Mag. B*, vol. 71[3], pp. 373–382, (1995).

**S.A. Maloy** and G.T. Gray III, "The Temperature and Strain Rate Dependence of the Flow Stress of Single Crystal NiAl Deformed along <110>", *Mat. Res. Soc. Symp. Proc.*, vol. 364, pp. 549–554, (1995).

S-Q. Xiao, **S.A. Maloy**, A.H. Heuer, and U. Dahmen, "Morphology and Interface Structure of Mo<sub>5</sub>Si<sub>3</sub> Precipitates in MoSi<sub>2</sub>", *Phil. Mag A*, 72[4], pp 997–1013, (1995).

**S.A. Maloy**, G.T. Gray III, "High Strain Rate Deformation of Ti–48Al–2Nb–2Cr in the Duplex Morphology" in *Gamma Titanium Aluminides*, ed. by Y-W Kim, R. Wagner, and M. Yamaguchi, TMS, Warrendale, PA, pp. 307–314 (1995).

Xiao, SQ; Dahmen, U; **Maloy, SA**; Heuer, AH, TEM characterization of invariant line interfaces and structural ledges in a Mo–Si alloy, *MATERIALS SCIENCE FORUM*; v.207–, pt.1, p.117–120, (1996).

**S.A. Maloy** and T.E. Mitchell, "Dislocation Decomposition, Dissociation, and Deformation in MoSi<sub>2</sub> and α-Al<sub>2</sub>O<sub>3</sub> Single Crystals" in *Plastic Deformation of Ceramics*, ed. by R.C. Bradt, C.L. Brookes and J.L. Routbort, Plenum Press, New York, pp. 53–62 (1996).

D.P. Butt, D.A. Korzekwa, **S.A. Maloy**, H. Kung and J.J. Petrovic, "Impression Creep Behavior of SiC particle–MoSi<sub>2</sub> Composites", *J. Mat. Res.*, 11[6], p. 1, (1996).

**S.A. Maloy**, G.T. Gray III, "High Strain Rate Deformation of Ti–48Al–2Nb–2Cr", *Acta Materialia*, v. 44[5], pp. 1741–1756, (1996).

F. Chu, M. Lei, **S.A. Maloy**, J.J. Petrovic, and T.E. Mitchell, "Elastic Properties of C40 Transition Metal Disilicides", *Acta Materialia*, 44[8], pp 3035–3048, (1996).

**S. A. Maloy**, F. Chu, J. J. Petrovic and T. E. Mitchell, "Dislocations and Mechanical Properties of Single Crystal NbSi<sub>2</sub>", in *Deformation and Fracture of Ordered Intermetallic Materials III*, W. O. Soboyejo, H. L. Fraser and T. S. Srivatsan, eds., The Metals, Minerals and Materials Society, p. 473–481 (1996). LAUR–96–1504.

P. Peralta, **S. A. Maloy**, F. Chu, J. J. Petrovic and T. E. Mitchell, "Mechanical Properties of Monocrystalline C11b MoSi<sub>2</sub> with Small Aluminum Additions", *Scripta mater.*, 37, p. 1599 (1997).

**S.A. Maloy**, W.F. Sommer, "Spallation Source Materials Test Program", Proceedings of the American Nuclear Society: Topical Meeting on Nuclear Applications of Accelerator Technology, Albuquerque, NM, Nov. 16–20, pp. 58–61, (1997).

**S.A. Maloy**, W.F. Sommer, R.D. Brown, J.E. Roberts, J. Eddleman, E. Zimmerman and G. Willcutt, "Progress Report on the Accelerator Production of Tritium Materials Irradiation Program", Materials For Spallation Neutron Sources, Ed. by M.S. Wechsler, L.K. Mansur, C.L. Snead, and W.F. Sommer, The Minerals, Metals & Materials Society, pp. 131–138, (1998)

D.P. Butt, G.S. Kanner, L.L. Daemen, **S.A. Maloy** and R.S. Lillard, "In Situ Studies of Aqueous Corrosion of Target and Structural Materials in water Irradiated by an 800 MeV Proton Beam", Materials For Spallation Neutron Sources, Ed. by M.S. Wechsler, L.K. Mansur, C.L. Snead, and W.F. Sommer, The Minerals, Metals & Materials Society, pp. 93–98, (1998)

G.J. Willcutt, **S.A. Maloy**, M.R. James, J. Teague, D.A. Siebe, W.F. Sommer, P.D. Ferguson, "Thermal Analysis of the APT Materials Irradiation Samples", 2<sup>nd</sup> International Topical Meeting on Nuclear Applications of Accelerator Technology, Gatlinburg, TN, Sept. 20–23, pp. 254–259, (1998)

M.R. James, **S.A. Maloy**, W.F. Sommer, P. Ferguson, M.M. Fowler, K. Corzine, "Determination of Mixed Proton/Neutron Fluences in the LANSCE Irradiation Environment", 2<sup>nd</sup> International Topical Meeting on Nuclear Applications of Accelerator Technology, Gatlinburg, TN, Sept. 20–23, pp. 605–608, (1998).

**S.A. Maloy**, M.R. James, W.F. Sommer, P. Ferguson, G. Willcutt, D. Alexander, M.R. Louthan, M.L. Hamilton, L. Snead, and M.A. Sokolov, "The Change in the Mechanical Properties of Alloy 718, 304L and 316L Stainless Steel and Al6061 After Irradiation in a High Energy Proton Beam," Proceedings of the Third International Topical Meeting on Nuclear Applications of Accelerator Technology, American Nuclear Society: LaGrange Park IL, Long Beach, CA, November 14–18, pp. 541–550, (1999).

P. Peralta, F. Chu, **S. A. Maloy**, P. Santiago, J. J. Petrovic and T. E. Mitchell, "Effects of Small Aluminum Additions on Mechanical, Elastic and Structural Properties of Monocrystalline C11b MoSi<sub>2</sub>", TOPICS IN PHYSICAL CHEMISTRY: A SERIES OF ADVANCED TEXTBOOKS AND MONOGRAPHS, p.121–130, (1999).

W. Sommer, R. Werbeck, **S. A. Maloy**, M. Borden, and R. Brown, "Materials Selection and Qualification Processes at a High-Power Spallation Source", *Materials Characterization*, 43, pp. 97–123 (1999).

Y. Dai, G.S. Bauer, F. Carsughi, H. Ullmaier, **S.A. Maloy**, W.F. Sommer, "Microstructure in Martensitic Steel DIN 1.4926 after 800 MeV Proton Irradiation", *J. of Nuclear Materials*, 265, pp. 203–207, (1999).

Y. Dai, **S.A. Maloy**, G.S. Bauer and W.F. Sommer, "Mechanical Properties and Microstructure in Low Activation Martensitic Steels, F82H and Optimax after 800 MeV Proton Irradiation," *J. of Nuclear Materials*, 283–287, pp. 513–517, (2000).

M. R. James, **S. A Maloy**, W. F. Sommer, P. D. Ferguson, M. M. Fowler, G. E. Mueller, and R. K. Corzine, "Spectral Unfolding of Mixed Proton/Neutron Fluences in the LANSCE Irradiation Environment," *Reactor Dosimetry, ASTM STP 1398*, John. G. Williams, David. W. Vehar, Frank H. Ruddy and David. M. Gilliam, Eds., American Society for Testing and Materials, West Conshohocken, PA, (2000).

**S.A. Maloy**, W.F. Sommer, M.R. James, T. Romero, M. Lopez, E. Zimmermann, J. Ledbetter, "The Accelerator Production of Tritium Materials Test Program", *Nuclear Technology*, Vol 132, pp. 103–114, (2000).

M. L. Hamilton, F. A. Garner, M. B. Toloczko, **S.A. Maloy**, W.F. Sommer, M.R. James, P.D. Ferguson, M. R. Louthan, Jr, "Shear Punch and Tensile Measurements of Mechanical Property Changes Induced in Various Austenitic Alloys by High Energy Mixed Proton and Neutron Irradiation at Low Temperatures," *J. of Nuclear Materials*, 283–287, pp. 418–422, (2000).

B. H. Sencer, G. M. Bond, F. A. Garner, M. L. Hamilton, B.M. Oliver and L. E. Thomas, **S. A. Maloy**, W. F. Sommer, M. R. James and P. D. Ferguson, "Microstructural Evolution of Alloy 718 at High Helium and Hydrogen Generation Rates during Irradiation with 800 MeV Protons," *J. of Nuclear Materials*, 283–287, pp. 324–328, (2000).

B.M. Oliver, M.L. Hamilton, F.A. Garner, W.F. Sommer, **S.A. Maloy** and P.D. Ferguson, "Helium/Hydrogen Measurements in High-Energy Proton-Irradiated Tungsten," *Effects of Irradiation on Materials: 19<sup>th</sup> International Symposium, ASTM STP 1366*, M.L. Hamilton, A.S. Kumar, S.T. Rosinski, and M.L. Grossbeck, Eds., ASTM, West Conshohocken, PA, pp. 1109–1121, (2000).

G.S. Bauer, Y. Dai, **S. A. Maloy**, L.K. Mansur and H. Ullmaier, "Summary of the Fourth International Workshop on Spallation Materials Technology (IWSMT-4)," *J. of Nuclear Materials*, 296, pp. 321–325, (2001).

B.H. Sencer, G.M. Bond, M.L. Hamilton, F.A. Garner, **S.A. Maloy** and W.F. Sommer, "Microstructural Origins of Radiation-Induced Changes in Mechanical Properties of 316L and 304L Austenitic Stainless Steels Irradiated With Mixed Spectra of High-Energy Protons and Neutrons," *J. of Nuclear Materials*, 296, pp. 112–118, (2001).

M.R. James, **S.A. Maloy**, F.D. Gac, W.F. Sommer, J. Chen, and H. Ullmaier, "The Mechanical Properties of an Alloy 718 Window after Irradiation in a Spallation Environment," *J. of Nuclear Materials*, 296, pp. 139–144, (2001).

M. R. James, **S. A. Maloy**, W. F. Sommer, P. D. Ferguson, M. M Fowler, G. E. Mueller, and R. K. Corzine, *Reactor Dosimetry: Radiation Metrology and Assessment*, ASTM STP 1398, J. G. Williams, D. W. Vehar, F. H. Ruddy and D. M. Gilliam, Eds., American Society for Testing and Materials, West Conshohocken, PA, p. 167, (2001)

B.H. Sencer, G.M. Bond, F.A. Garner, M.L. Hamilton, **S.A. Maloy** and W.F. Sommer, "Correlation of Radiation-Induced Changes in Mechanical Properties and Microstructural Development of Alloy 718 Irradiated with Mixed Spectra of High-Energy Protons and Spallation Neutrons," *J. of Nuclear Materials*, 296, pp. 145–154, (2001).

**S. A. Maloy**, M. R. James, G. Willcutt, W. F. Sommer, M. Sokolov, L. L. Snead, M. L. Hamilton and F. Garner, "The Mechanical Properties of 316L/304L Stainless Steels, Alloy 718 and Mod 9Cr-1Mo after Irradiation in a Spallation Environment," *J. of Nuclear Materials*, 296, pp. 119–128, (2001).

F.A. Garner, B.M. Oliver, L.R. Greenwood, M.R. James, P.D. Ferguson, **S.A. Maloy** and W.F. Sommer, "Determination of Helium and Hydrogen Yield from Measurements on Pure Metals and Alloys Irradiated by Mixed High Energy Proton and Spallation Neutron Spectra in LANSCE," *J. of Nuclear Materials*, 296, pp. 66–82, (2001).

**S.A. Maloy**, M.R. James, G.J. Willcutt, W.F. Sommer, W.R. Johnson, M.R. Louthan Jr., M.L. Hamilton, F.A. Garner, "The Effect of High Energy Protons and Neutrons on the Tensile Properties of Materials Selected for the Target and Blanket Components in the Accelerator Production of Tritium Project", *Effects of Radiation on Materials, 20<sup>th</sup> International Symposium, ASTM STP 1405*, S. T. Rosinski, M. L. Grossbeck, T. R. Allen, and A. S. Kumar, Eds., American Society for Testing and Materials, West Conshohocken, PA, pp. 644–659, (2001).

M. A. Sokolov, J. P. Robertson, L. L. Snead, D.J. Alexander, P. Ferguson, M.R. James, **S. A. Maloy**, W. Sommer, G. Willcutt, and M.R. Louthan, "Fracture Toughness Characterization of Inconel 718, 304L, and 316L Austenitic Stainless Steels After Irradiation in High-Energy, Mixed Proton/Neutron Spectrum", *Effects of Radiation on Materials, 20<sup>th</sup> International Symposium, ASTM STP 1405*, S. T. Rosinski, M. L. Grossbeck, T. R. Allen, and A. S. Kumar, Eds., American Society for Testing and Materials, West Conshohocken, PA, pp. 125–147, (2001).

M. R. James, **S. A. Maloy**, W. F. Sommer, W. R. Johnson, D. A. Lohmeier, and M. L. Hamilton, "High-Energy Spallation Neutron Effects on the Tensile Properties of Materials for the Target and Blanket Components for the Accelerator Production of Tritium Project," *Effects of Radiation on Materials, 20<sup>th</sup> International Symposium, ASTM STP 1405*, S. T. Rosinski, M. L. Grossbeck, T.

R. Allen, and A. S. Kumar, Eds., American Society for Testing and Materials, West Conshohocken, PA, pp. 660–671, (2001).

K. A. Dunn, M. R. Louthan, Jr., J. I. Mickalonis, **S. A. Maloy**, M. R. James, "Examination Of Irradiated 304L Stainless Steel To 6061–T6 Aluminum Inertia Welded Transition Joints," *Effects of Radiation on Materials, 20<sup>th</sup> International Symposium, ASTM STP 1405*, S. T. Rosinski, M. L. Grossbeck, T. R. Allen, and A. S. Kumar, Eds., American Society for Testing and Materials, West Conshohocken, PA, pp. 573–587, (2001).

B. M. Oliver, F. A. Garner, M. L. Hamilton, W. F. Sommer, **S. A. Maloy**, and P. D. Ferguson, "Hydrogen and Helium Gas Formation and their Release Kinetics in Tungsten Rods after Irradiation with 800 MeV Protons", *Effects of Radiation on Materials, 20<sup>th</sup> International Symposium, ASTM STP 1405*, S. T. Rosinski, M. L. Grossbeck, T. R. Allen, and A. S. Kumar, Eds., American Society for Testing and Materials, West Conshohocken, PA, pp. 762–774, (2001).

Garner, FA; Hamilton, ML; Oliver, BM; Greenwood, LR; **Maloy, SA**; Sommer, WF; James, MR; Ferguson, PD, "Determination of gas generation cross sections in alloys and pure metals irradiated in mixed high–energy proton and spallation neutron spectra in LANSCE at 30–60 degrees C," PRICM 4: FOURTH PACIFIC RIM INTERNATIONAL CONFERENCE ON ADVANCED MATERIALS AND PROCESSING, VOLS I AND II; p.1311–1314, (2001).

B. M. Oliver, F. A. Garner, W. F. Sommer, **S. A. Maloy**, P. D. Ferguson, and M.R. James "Retention of Very High Levels of Helium and Hydrogen Generated in Various Structural Alloys by 800 MeV Protons and Spallation Neutrons", *Effects of Radiation on Materials, 20<sup>th</sup> International Symposium, ASTM STP 1405*, S. T. Rosinski, M. L. Grossbeck, T. R. Allen, and A. S. Kumar, Eds., American Society for Testing and Materials, West Conshohocken, PA, pp. 612–630, (2001).

Oliver, BM; Garner, FA; Hamilton, ML; Venhaus, TJ; Causey, RA; **Maloy, SA**, "Hydrogen release from 800–MeV proton–irradiated tungsten rods," PHYSICA SCRIPTA; v.T94, p.137–140, (2001)

B. H. Sencer, G. M. Bond, F. A. Garner, **S. A. Maloy**, W. F. Sommer and M. R. James, "Microstructural Alteration of Structural Alloys by Low Temperature Irradiation with High Energy Protons and Spallation Neutrons", ", *Effects of Radiation on Materials, 20<sup>th</sup> International Symposium, ASTM STP 1405*, S. T. Rosinski, M. L. Grossbeck, T. R. Allen, and A. S. Kumar, Eds., American Society for Testing and Materials, West Conshohocken, PA, pp. 588–611, (2001).

M. R. James, **S. A. Maloy**, W. F. Sommer, M. M. Fowler, D. Dry, P. D. Ferguson, R. K. Corzine, and G. E. Mueller, "Assessment of Radiation Exposure for Materials in the LANSCE Spallation Irradiation Facility," Proceedings of the Fourth International Topical Meeting on Nuclear Applications of Accelerator Technology, American Nuclear Society: LaGrange Park IL, Washington D.C., November 12–15, p. 263, (2001).

C. J. Czajkowski, C. L. Snead, G. A. Greene, **S. A. Maloy**, M. R. James, "Measurement of Mechanical and Corrosive Properties on Potential APT Structural Materials After Irradiation in a High-Energy Proton Beam," Proceedings of the Fourth International Topical Meeting on Nuclear Applications of Accelerator Technology, American Nuclear Society: LaGrange Park IL, Washington D.C., November 12-15, p. 368, (2001).

**S.A. Maloy**, M.R. James, W.F. Sommer, G.J. Willcutt, M. Lopez, T.J. Romero, "The Effect of 800 MeV Proton Irradiation on the Mechanical Properties of Tungsten," Materials Transactions (Invited paper in special issue on radiation-induced effects by high energy particle solid interaction, The Japan Institute of Metals), 43[4], pp. 633-637 (2002).

T.S. Byun, K. Farrell, E.H. Lee, L.K. Mansur, **S.A. Maloy**, M.R. James, W.R. Johnson, "Temperature Effects on the Mechanical properties of Candidate SNS Target Container Materials after Proton and Neutron Irradiation," J. Nuclear Materials [303], pp. 34-43, (2002).

B.M. Oliver, M.R. James, F.A. Garner, **S.A. Maloy**, "Helium and hydrogen generation in pure metals irradiated with high-energy protons and spallation neutrons in LANSCE," Journal of Nuclear Materials 307-311, pp. 1471-1477, (2002).

B.M. Oliver, T.J. Venhaus, R.A. Causey, F.A. Garner, **S.A. Maloy**, "Hydrogen release from 800 MeV proton-irradiated tungsten," Journal of Nuclear Materials 307-311 part 2, pp. 1418-1423, (2002).

L.L. Snead, R.E. Stoller, M.A. Sokolov, **S. Maloy**, "Experimental determination of the effect of helium on the fracture toughness of steel," Journal of Nuclear Materials, 307-311, pp. 187-191, (2002).

B.H. Sencer, F.A. Garner, D.S. Gelles, G.M. Bond, **S.A. Maloy**, "Microstructural evolution in modified 9Cr-1Mo ferritic/martensitic steel irradiated with mixed high-energy proton and neutron spectra at low temperatures," Journal of Nuclear Materials 307-311, pp. 266-271, (2002).

**S.A. Maloy**, "Discussion session summary: radiation effects," Journal of Nuclear Materials, 318, pp. 369-370, (2003).

M.B. Toloczko, M.L. Hamilton, **S.A. Maloy**, "High temperature tensile testing of modified 9Cr-1Mo after irradiation with high energy protons," Journal of Nuclear Materials 318, pp. 200-206, (2003).

**S.A. Maloy**, M.R. James, W.R. Johnson, T.S. Byun, K. Farrell, M.B. Toloczko, "Comparison of Fission neutron and proton/spallation neutron irradiation effects on the tensile behavior of type 316 and 304 stainless steel," Journal of Nuclear Materials 318, pp. 283-291(2003).

Lillard, RS; Chandler, GT; Ferguson, PD; Gac, FD; James, MR; **Maloy, SA**; Paciotti, MA; Waters, LS; Willcutt, GJ, "Corrosion measurements on apt prototypic materials in the LANSCE high-power proton beam and applicability to other systems" UTILISATION AND RELIABILITY OF HIGH POWER PROTON ACCELERATORS, WORKSHOP PROCEEDINGS, p.175–192, (2003).

Chen, J; Bauer, GS; Broome, T; Carsughi, F; Dai, Y; **Maloy, SA**; Roedig, M; Sommer, WF; Ullmaier, H, Summary of the results from post-irradiation examination of spent targets at the FZ-Juelich, JOURNAL OF NUCLEAR MATERIALS; v.318, p.56–69, (2003)

M. James and **S. Maloy**, "The performance of high-temperature superconductors-in space radiation environments," *IEEE transactions on applied superconductivity*, 13, (2) 1600–1603, (2003).

W.F. Sommer, M. Louthan, **S.A. Maloy**, M.R. James, J. Chen, and H. Ullmaier, "Failure of a Radio-Activated Accelerator Component," *Practical Failure Analysis*, 3(1), pp. 71–80, (2003).

**S.A. Maloy**, G.T. Gray III, C.M. Cady, R.W. Rutherford, R.S. Hixson, The Influence of Explosive-driven "Taylor-Wave" Shock Prestraining on the Structure/Property Behavior of 304 Stainless Steel," *Met. Trans. A*, Vol. 35A, p. 2617, (2004).

Oliver, BM; Causey, RA; **Maloy, SA**, "Deuterium retention and release from highly irradiated annealed tungsten after exposure to a deuterium DC glow discharge," *J. Nuclear Materials*, v.329–33, pt.B, p.977–981, (2004).

Egeland, GW, Valdez, JA, Swadener, JG, Oliver, B., McClellan, KJ, **Maloy, SA**, Sickafus, KE, Bond, GM, "Heavy ion irradiation effects in zirconium nitride," *Proceedings of the 2004 International Congress on Advances in Nuclear Power Plants, ICAPP'04*; no.4225, p.2023–2031, (2004).

B.H. SENCER, **S.A. MALOY**, and G.T. GRAY III, "The Influence of Explosive-Driven Shock Prestraining at 35 GPa and of High Deformation on the Structure/Property Behavior of 316 L Austenitic Stainless Steel," *Met Trans A*, VOLUME 36A, p. 1825, (2005).

B.H. SENCER, **S.A. MALOY**, and G.T. GRAY III, "The influence of shock-pulse shape on the structure/property behavior of copper and 316 L austenitic stainless steel," *Acta Materialia* 53, pp.3293–3303, (2005).

Walter F. Sommer, **SA Maloy**, McIntyre R. Louthan, Gordon J. Willcutt, Phillip D. Ferguson, Michael R. James, "[Performance of a Clad Tungsten Rod Spallation Neutron Source Target](#)," *Nuclear Technology*, Volume 151, Number 3, Pages 303–313, (2005).

Xue, Q., I. Gray, B. Henrie, **S. Maloy**, and S. Chen, "Influence of shock prestraining on the formation of shear localization in 304 stainless steel. *Metallurgical and materials transactions*". A, *Physical metallurgy and materials science*, 36(6): p. 1471–1486. (2005).



Dai, Y; Jia, X; **Maloy, SA**, "Annealing effects on mechanical properties and microstructure of F82H irradiated at 60C with 800 MeV protons", Journal of Nuclear Materials; v.343, no.1-3, p.241-246, (2005).

**Maloy, SA**, James, MR; Sommer, W; Willcutt, GJ; Lopez, M; Romero, TJ; Toloczko, MB, "The effect of 800 MeV proton irradiation on the mechanical properties of tungsten at room temperature and at 475 C", Journal of Nuclear Materials; v.343, no.1-3, p.219-226, (2005).

**Maloy, SA**, Zubelewicz, A; Romero, T; James, MR; Sommer, WF; Dai, Y, "The high temperature three point bend testing of proton irradiated 316L stainless steel and Mod 9Cr-1Mo", Journal of Nuclear Materials, v.343, no.1-3, p.191-196, (2005).

**Maloy, SA**; James, MR; Romero, TJ; Toloczko, MB; Kurtz, RJ; Kimura, A, "Tensile properties of the NLF reduced activation ferritic/martensitic steels after irradiation in a fast reactor spectrum to a maximum dose of 67 dpa," Journal of Nuclear Materials, vol.341, no.2-3, p.141-7, (2005).

Sencer, BH; **Maloy, SA**; Hamilton, ML; Garner, FA, "Microstructural evolution of both as-irradiated and subsequently deformed microstructures of 316 L stainless steel irradiated at 30-160 degrees C at LANSCE," J. Nuclear Materials, v.345, no.2-3, p.136-145, (2005).

[Dai, Y \* Mansur, LK \* Maloy, SA], "*Summary of the 7th International Workshop on Spallation Materials Technology (IWSMT-7)*", JOURNAL OF NUCLEAR MATERIALS, Vol.356, iss.1-3, p.325-330, SEP 15 2006.

[Maloy, SA \* Romero, T \* James, MR \* Dai, Y], "*Tensile testing of EP-823 and HT-9 after irradiation in STIP II*", JOURNAL OF NUCLEAR MATERIALS, Vol.356, iss.1-3, p.56-61, SEP 15 2006.

[Maloy, SA \* Toloczko, MB \* McClellan, KJ \* Romero, T \* Kohno, Y \* Garner, FA \* Kurtz, RJ \* Kimura, A], "*The effects of fast reactor irradiation conditions on the tensile properties of two ferritic/martensitic steels*", JOURNAL OF NUCLEAR MATERIALS, Vol.356, iss.1-3, p.62-69, SEP 15 2006.

[Deo, CS \* Srivilliputhur, SG \* Baskes, M \* Maloy, S \* James, M \* Okuniewski, M \* Stubbins, J], "*Kinetics of the nucleation and growth of helium bubbles in bcc iron*", Materials Research Society Symposium Proceedings, Vol.929, p.21-26, 2006.

[Gray, G.T. \* Cerreta, E. \* Yablinsky, C.A. \* Addessio, L.B. \* Henrie, B.L. \* Sencer, B.H. \* Burkett, M. \* Maudlin, P.J. \* Maloy, S.A. \* Trujillo, C.P. \* Lopez, M.F.], "*Influence of shock prestraining and grain size on the dynamic-tensile-extrusion response of copper: experiments and simulation* ", AIP Conference Proceedings, vol.845, no.1, p.725-8, 2006.

[Deo, C.S. \* Okuniewski, M.A. \* Srivilliputhur, S.G. \* Maloy, S.A. \* Baskes, M.I. \* James, M.R. \* Stubbins, J.F.], "*Helium bubble nucleation in bcc iron studied by kinetic Monte Carlo simulations*", Journal of Nuclear Materials, vol.361, no.2-3, p.141-8, 15 April 2007.

[Okuniewski, MA \* Wells, DP \* Selim, FA \* Maloy, SA \* James, MR \* Stubbins, JF \* Deo, CS \* Srivilliputhur, SG \* Baskes, MI], "*Positron annihilation spectroscopy of proton irradiated single crystal BCC iron*", JOURNAL OF NUCLEAR MATERIALS, Vol.351, iss.1-3, p.149-154, JUN 1 2006.

[Wells, DP \* Hunt, AW \* Tchelidze, L \* Kumar, J \* Smith, K \* Thompson, S \* Selim, F \* Williams, J \* Harmon, JF \* Maloy, S \* Roy, A], "*Gamma-induced positron annihilation spectroscopy and application to radiation-damaged alloys*", NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT, Vol.562, iss.2, p.688-691, JUN 23 2006.

[Deo, CS \* Okuniewski, MA \* Srivilliputhur, SG \* Maloy, SA \* Baskes, MI \* James, MR \* Stubbins, JF], "*The effects of helium on irradiation damage in single crystal iron*", JOURNAL OF NUCLEAR MATERIALS, Vol.367, pt.A, p.451-456, AUG 1 2007.

[Hosemann, P. \* Thau, H.T. \* Johnson, A.L. \* Maloy, S.A. \* Li, N.], "*Corrosion of ODS steels in lead-bismuth eutectic*", Journal of Nuclear Materials, Vol.373, iss.1-3, p.246-253, 20080215.

[Hosemann, P. \* Swadener, J.G. \* Kiener, D. \* Was, G.S. \* Maloy, S.A. \* Li, N.], "*An exploratory study to determine applicability of nano-hardness and micro-compression measurements for yield stress estimation*", Journal of Nuclear Materials, Vol.375, iss.1, p.135-143, 20080330.

[Allen, TR \* Busby, JT \* Klueh, RL \* Maloy, SA \* Toloczko, MB], "*Cladding and duct materials for advanced nuclear recycle reactors*", JOM, Vol.60, iss.1, p.15-23, JAN 2008.

[Jiang, C \* Srinivasan, SG \* Caro, A \* Maloy, SA], "*Structural, elastic, and electronic properties of Fe<sub>3</sub>C from first principles*", JOURNAL OF APPLIED PHYSICS, Vol.103, iss.4, 043502, FEB 15 2008.

[Jiang, C \* Maloy, SA \* Srinivasan, SG], "*A computational method to identify interstitial sites in complex materials*", SCRIPTA MATERIALIA, Vol.58, iss.9, p.739-742, MAY 2008.

[Hosemann, P. \* Greco, R.R. \* Usov, I. \* Wang, Y. \* Maloy, S.A. \* Li, N.], "*The design, setup and operational testing of the irradiation and corrosion experiment (ICE)*", Journal of Nuclear Materials, Vol.376, iss.3, p.392-395, 20080615.

[Maloy, S. \* Rogers, B. \* Ren, W. \* Rittenhouse, P.], "*Status of materials handbooks for particle accelerator and nuclear reactor applications*", Journal of Nuclear Materials, Vol.377, iss.1, p.94-96, 20080630.

[Foley, D.C. \* Hartwig, K.T. \* Maloy, S.A. \* Hosemann, P. \* Zhang, X.], *"Grain refinement of T91 alloy by equal channel angular pressing"*, Journal of Nuclear Materials, Vol.389, iss.2, p.221–224, 20090531.

[Li, N. \* Fu, E.G. \* Wang, H. \* Carter, J.J. \* Shao, L. \* Maloy, S.A. \* Misra, A. \* Zhang, X.], *"He ion irradiation damage in Fe/W nanolayer films"*, Journal of Nuclear Materials, Vol.389, iss.2, p.233–238, 20090531.

[Hosemann, P. \* Vieh, C. \* Greco, R.R. \* Kabra, S. \* Valdez, J.A. \* Cappiello, M.J. \* Maloy, S.A.], *"Nanoindentation on ion irradiated steels"*, Journal of Nuclear Materials, Vol.389, iss.2, p.239–247, 20090531.

[Tchelidze, L. \* Wells, D.P. \* Maloy, S.A.], *"Positron annihilation energy and lifetime spectroscopy studies for radiation defects in stainless steel"*, AIP Conference Proceedings, vol.1099, p.985–8, 2009.

[Hosemann, P \* Hawley, M \* Mori, G \* Li, N \* Maloy, SA], *"AFM and MFM characterization of oxide layers grown on stainless steels in lead bismuth eutectic"*, JOURNAL OF NUCLEAR MATERIALS, Vol.376, iss.3, p.289–292, JUN 15 2008.

[Byun, TS \* Maloy, SA], *"Dose dependence of mechanical properties in tantalum and tantalum alloys after low temperature irradiation"*, JOURNAL OF NUCLEAR MATERIALS, Vol.377, iss.1, p.72–79, JUN 30 2008.

[Deo, C \* Tom, C \* Lebensohn, R \* Maloy, S], *"Modeling and simulation of irradiation hardening in structural ferritic steels for advanced nuclear reactors"*, JOURNAL OF NUCLEAR MATERIALS, Vol.377, iss.1, p.136–140, JUN 30 2008.

[Hosemann, P \* Hawley, ME \* Koury, D \* Welch, J \* Johnson, AL \* Mori, G \* Li, N \* Maloy, SA], *"Nanoscale characterization of HT-9 exposed to lead bismuth eutectic at 550 degrees C for 3000 h"*, JOURNAL OF NUCLEAR MATERIALS, Vol.381, iss.3, p.211–215, NOV 15 2008.

[Hosemann, P. \* Stergar, E. \* Vieh, C. \* Greco, R.R. \* Cappiello, M.J. \* Maloy, S.A.], *"Micro mechanic testing and local electrode atom probe microscope (LEAP) measurements on oxide dispersed strengthened (ODS) alloys"*, Transactions of the American Nuclear Society, Vol.98, p.1123–1124, 2008.

[Hosemann, P. \* Maloy, S.A. \* Greco, R.R. \* Swadener, J.G. \* Romero, T.], *"Oxygen effects on irradiated tantalum alloys"*, Journal of Nuclear Materials, Vol.384, iss.1, p.25–29, 20090131.

[Pitcher, E.J. \* Maloy, S.A. \* James, M.R. \* Woloshun, K.A. \* Ammerman, C.N. \* Kelsey IV, C.T. \* Muhrer, G.], *"Fusion materials irradiations at the Materials Test Station"*, 8th International Topical Meeting on Nuclear Applications and Utilization of Accelerators, ACCAPP07, p.82–86, 2007.

[Maloy, S.A. \* Hosemann, P. \* Vieh, C. \* Romero, T. \* Toloczko, M.], *"Core materials development and testing for the global nuclear energy partnerships advanced burner reactor"*, Transactions of the American Nuclear Society, vol.98, p.1004–5, 2008.

[Deo, C.S. \* Srinivasan, S.G. \* Baskes, M.I. \* Maloy, S.A. \* James, M.R. \* Okuniewski, M. \* Stubbins, J.], *"Kinetics of the migration and clustering of extrinsic gas in bcc metals"*, ASTM Special Technical Publication, Vol.1492 STP, p.177–189, 2008.

[Sencer, B.H. \* Kennedy, J.R. \* Cole, J.I. \* Maloy, S.A. \* Garner, F.A.], *"Microstructural analysis of an HT9 fuel assembly duct irradiated in FFTF to 155 dpa at 443 C"*, Journal of Nuclear Materials, Vol.393, iss.2, p.235–241, 20090901.

[Van den Bosch, J. \* Hosemann, P. \* Almazouzi, A. \* Maloy, S.A.], *"Liquid metal embrittlement of silicon enriched steel for nuclear applications"*, Journal of Nuclear Materials, Vol.398, iss.1–3, p.116–121, March 2010.

[Hosemann, P \* Kabra, S \* Stergar, E \* Cappillo, MJ \* Maloy, SA], *"Micro-structural characterization of laboratory heats of the Ferric/Martensitic steels HT-9 and T91"*, JOURNAL OF NUCLEAR MATERIALS, Vol.403, iss.1–3, p.7–14, AUG 2010.

[Zhang, J. \* Hosemann, P. \* Maloy, S.], *"Models of liquid metal corrosion"*, Journal of Nuclear Materials, Vol.404, iss.1, p.82–96, 2010.

[Tchelidze, L. \* Wells, D.P. \* Maloy, S.A.], *"Defect studies of stainless steel via positron annihilation energy spectroscopy"*, Journal of Physics: Conference Series, vol.265, p.012011, 2011.

[Maloy, S.A. \* Hosemann, P. \* Bosch, J.V. \* Toloczko, M. \* Cole, J. \* Byun, T.S.], *"Development and testing of radiation tolerant clad materials for nuclear fuels"*, Transactions of the American Nuclear Society, vol.102, p.701, 2010.

[Meimei Li \* Trenikhina, Y. \* Olive, D. \* Ganegoda, H. \* Terry, J. \* Maloy, S.A.], *"Study of Irradiated Mod.9Cr-1Mo Steel by Synchrotron XAS"*, Transactions of the American Nuclear Society, vol.102, p.855, 2010.

[Hosemann, P. \* Dai, Y. \* Stergar, E. \* Nelson, A.T. \* Maloy, S.A.], *"Small-scale testing of in-core fast reactor materials"*, Journal of Nuclear Science and Technology, Vol.48, iss.4, p.575–579, April 2011.

[Pitcher, E. \* Woloshun, K. \* Ammerman, C. \* James, M. \* Trellue, H. \* Maloy, S. \* Naranjo, A. \* Olivas, E.], *"Progress on the materials test station"*, International Conference on the Physics of Reactors 2008, PHYSOR 08, Vol.4, p.2553–2558, 2008.

[Sencer, B.H. \* Kennedy, J.R. \* Cole, J.I. \* Maloy, S.A. \* Garner, F.A.], *"Microstructural stability of an HT-9 fuel assembly duct irradiated in FFTF"*, Journal of Nuclear Materials, Vol.414, iss.2, p.237-242, 20110715.

[Hosemann, P. \* Dai, Y. \* Stergar, E. \* Leitner, H. \* Olivas, E. \* Nelson, A.T. \* Maloy, S.A.], *"Large and Small Scale Materials Testing of HT-9 Irradiated in the STIP Irradiation Program"*, Experimental Mechanics, Vol.51, iss.7, p.1095-1102, September 2011.

[Kiener, D \* Hosemann, P \* Maloy, SA \* Minor, AM], *"In situ nanocompression testing of irradiated copper"*, NATURE MATERIALS, Vol.10, iss.8, p.608-613, AUG 2011.

[Maloy, S.A. \* Toloczko, M. \* Cole, J. \* Byun, T.S.], *"Core materials development for the fuel cycle R&D program"*, Journal of Nuclear Materials, Vol.415, iss.3, p.302-305, 20110831.

[Egeland, G.W. \* Wheeler, K. \* Peralta, P. \* McClellan, K.J. \* Maloy, S.A. \* Bond, G.M.], *"Plastic deformation in zirconium nitride observed by nanoindentation and TEM"*, Journal of Nuclear Materials, Vol.416, iss.3, p.253-261, 20110930.

[Hosemann, P. \* Stergar, E. \* Nelson, A.T. \* Vieh, C. \* Maloy, S.A.], *"Nanostructured engineering alloys for nuclear application"*, Materials Research Society Symposium Proceedings, Vol.1298, p.217-226, 2011.

[Hosemann, P. \* Stergar, E. \* Peng, L. \* Dai, Y. \* Maloy, S.A. \* Pouchon, M.A. \* Shiba, K. \* Hamaguchi, D. \* Leitner, H.], *"Macro and microscale mechanical testing and local electrode atom probe measurements of STIP irradiated F82H, Fe-8Cr ODS and Fe-8Cr-2W ODS"*, Journal of Nuclear Materials, Vol.417, iss.1-3, p.274-278, 20111001.

[Maloy, S.A. \* Romero, T.J. \* Hosemann, P. \* Toloczko, M.B. \* Dai, Y.], *"Shear punch testing of candidate reactor materials after irradiation in fast reactors and spallation environments"*, Journal of Nuclear Materials, Vol.417, iss.1-3, p.1005-1008, 20111001.

[Sun, C. \* Yu, K.Y. \* Lee, J.H. \* Liu, Y. \* Wang, H. \* Shao, L. \* Maloy, S.A. \* Hartwig, K.T. \* Zhang, X.], *"Enhanced radiation tolerance of ultrafine grained Fe-Cr-Ni alloy"*, Journal of Nuclear Materials, Vol.420, iss.1-3, p.235-240, January 2012.

[Gagliardi, MA \* Sencer, BH \* Hunt, AW \* Maloy, SA \* Gray, GT], *"Relative Defect Density Measurements of Laser Shock Peened 316L Stainless Steel Using Positron Annihilation Spectroscopy"*, JOURNAL OF NONDESTRUCTIVE EVALUATION, Vol.30, iss.4, p.221-224, DEC 2011.

[Byun, T.S. \* Daniel Lewis, W. \* Toloczko, M.B. \* Maloy, S.A.], *"Impact properties of irradiated HT9 from the fuel duct of FFTF"*, Journal of Nuclear Materials, Vol.421, iss.1-3, p.104-111, February 2012.

[Hosemann, P. \* Hofer, C. \* Hlawacek, G. \* Li, N. \* Maloy, S.A. \* Teichert, C.], *"Structural, electrical and magnetic measurements on oxide layers grown on 316L exposed to liquid lead-bismuth eutectic"*, Journal of Nuclear Materials, Vol.421, iss.1-3, p.140-146, February 2012.

[Sun, C. \* Yang, Y. \* Liu, Y. \* Hartwig, K.T. \* Wang, H. \* Maloy, S.A. \* Allen, T.R. \* Zhang, X.], *"Thermal stability of ultrafine grained Fe-Cr-Ni alloy"*, Materials Science and Engineering A, Vol.542, p.64-70, 20120430.

[Clausen, B. \* Brown, D.W. \* Bourke, M.A.M. \* Saleh, T.A. \* Maloy, S.A.], *"In situ neutron diffraction and Elastic-Plastic Self-Consistent polycrystal modeling of HT-9"*, Journal of Nuclear Materials, Vol.425, iss.1-3, p.228-232, June 2012.

[Hosemann, P. \* Kiener, D. \* Wang, Y. \* Maloy, S.A.], *"Issues to consider using nano indentation on shallow ion beam irradiated materials"*, Journal of Nuclear Materials, Vol.425, iss.1-3, p.136-139, June 2012.

[Perez-Bergquist, SJ \* Gray, GT \* Maloy, SA \* Cerreta, EK \* Anderoglu, O], *"ROLE OF STORED DEFECTS ON THE MECHANICAL RESPONSE OF SHOCK PRESTRAINED HT-9 STEEL"*, AIP Conference Proceedings, Vol.1426, 2012.

[Bhattacharyya, D \* Dickerson, P \* Odette, GR \* Maloy, SA \* Misra, A \* Nastasi, MA], *"On the structure and chemistry of complex oxide nanostructures in nanostructured ferritic alloy U14YWT"*, PHILOSOPHICAL MAGAZINE, Vol.92, iss.16, p.2089-2107, 2012.

[Van Den Bosch, J. \* Coen, G. \* Hosemann, P. \* Maloy, S.A.], *"On the LME susceptibility of Si enriched steels"*, Journal of Nuclear Materials, Vol.429, iss.1-3, p.105-112, October 2012.

[Toloczko, MB \* Garner, FA \* Maloy, SA], *"Irradiation creep and density changes observed in MA957 pressurized tubes irradiated to doses of 40-110 dpa at 400-750 degrees C in FFTF"*, JOURNAL OF NUCLEAR MATERIALS, Vol.428, iss.1-3, spec. iss.SI, p.170-175, SEP 2012.

[Pitcher, EJ \* Kelsey, CT \* Maloy, SA], *"THE SUITABILITY OF THE MATERIALS TEST STATION FOR FUSION MATERIALS IRRADIATIONS"*, FUSION SCIENCE AND TECHNOLOGY, Vol.62, iss.1, p.289-294, JUL-AUG 2012.

[Anderoglu, O. \* Van Den Bosch, J. \* Hosemann, P. \* Stergar, E. \* Sencer, B.H. \* Bhattacharyya, D. \* Dickerson, R. \* Dickerson, P. \* Hartl, M. \* Maloy, S.A.], *"Phase stability of an HT-9 duct irradiated in FFTF"*, Journal of Nuclear Materials, Vol.430, iss.1-3, p.194-204, November 2012.

[Hosemann, P. \* Dickerson, R. \* Dickerson, P. \* Li, N. \* Maloy, S.A.], *"Transmission electron microscopy (TEM) on oxide layers formed on D9 stainless steel in lead bismuth eutectic (LBE)"*, Corrosion Science, Vol.66, p.196-202, January 2013.

[Kiener, D. \* Minor, A.M. \* Anderoglu, O. \* Wang, Y. \* Maloy, S.A. \* Hosemann, P.], *"Application of small-scale testing for investigation of ion-beam-irradiated materials"*, Journal of Materials Research, Vol.27, iss.21, p.2724–2736, 2012 1114.

[Nelson, A.T. \* Hosemann, P. \* Maloy, S.A.], *"Development and analysis of diffusion bonding techniques for LBE-cooled spallation targets"*, Journal of Nuclear Materials, Vol.431, iss.1–3, p.185–195, December 2012.

[Nelson, A.T. \* OToole, J.A. \* Valicenti, R.A. \* Maloy, S.A.], *"Fabrication of a tantalum-clad tungsten target for LANSCE"*, Journal of Nuclear Materials, Vol.431, iss.1–3, p.172–184, December 2012.

[Maloy, S.A. \* Scott Lillard, R. \* Sommer, W.F. \* Butt, D.P. \* Gac, F.D. \* Willcutt, G.J. \* Louthan Jr., M.R.], *"Water corrosion measurements on tungsten irradiated with high energy protons and spallation neutrons"*, Journal of Nuclear Materials, Vol.431, iss.1–3, p.140–146, December 2012.

[Egeland, G.W. \* Valdez, J.A. \* Maloy, S.A. \* McClellan, K.J. \* Sickafus, K.E. \* Bond, G.M.], *"Heavy-ion irradiation defect accumulation in ZrN characterized by TEM, GIXRD, nanoindentation, and helium desorption"*, Journal of Nuclear Materials, Vol.435, iss.1–3, p.77–87, 2013.

[Byun, T.S. \* Toloczko, M.B. \* Saleh, T.A. \* Maloy, S.A.], *"Irradiation dose and temperature dependence of fracture toughness in high dose HT9 steel from the fuel duct of FFTF"*, Journal of Nuclear Materials, Vol.432, iss.1–3, p.1–8, January 2013.

[Anderoglu, Osman \* Byun, Thak Sang \* Toloczko, Mychailo \* Maloy, Stuart A.], *"Mechanical Performance of Ferritic Martensitic Steels for High Dose Applications in Advanced Nuclear Reactors"*, METALLURGICAL AND MATERIALS TRANSACTIONS A–PHYSICAL METALLURGY AND MATERIALS SCIENCE, Vol.44A, suppl.1, p.70–83, JAN 2013.

[Anderoglu, O. \* Zhou, M.J. \* Zhang, J. \* Wang, Y.Q. \* Maloy, S.A. \* Baldwin, J.K. \* Misra, A.], *"He<sup>+</sup> ion irradiation response of Fe–TiO<sub>2</sub> multilayers"*, Journal of Nuclear Materials, Vol.435, iss.1–3, p.96–101, 2013.

[Nelson, A.T. \* Patel, M.K. \* Maloy, S.A.], *"Oxidation of candidate ferritic LWR cladding materials at high temperatures"*, Transactions of the American Nuclear Society, Vol.106, p.1189–1190, 2012.

[Byun, Thak Sang \* Hoelzer, David T. \* Yoon, Ji Hyun \* Kang, Suk Hoon \* Lee, Yong Bok \* Maloy, Stuart A.], *"Towards improving the fracture characteristics of nanostructured ferritic alloys"*, Transactions of the American Nuclear Society, Vol.106, p.1276–1277, 2012.

[Van Den Bosch, J. \* Anderoglu, O. \* Dickerson, R. \* Hartl, M. \* Dickerson, P. \* Aguiar, J.A. \* Hosemann, P. \* Toloczko, M.B. \* Maloy, S.A.], *"SANS and TEM of ferritic–martensitic steel T91 irradiated in FFTF up to 184 dpa at 413 c"*, Journal of Nuclear Materials, Vol.440, iss.1–3, p.91–97, 2013.

[Caro, M. \* Woloshun, K. \* Rubio, F. \* Maloy, S. A. \* Hosemann, P.], *"Heavy Liquid Metal Corrosion of Structural Materials in Advanced Nuclear Systems"*, JOM, Vol.65, iss.8, p.1057–1066, AUG 2013.

[Mosbrucker, P.L. \* Brown, D.W. \* Anderoglu, O. \* Balogh, L. \* Maloy, S.A. \* Sisneros, T.A. \* Almer, J. \* Tulk, E.F. \* Morgenroth, W. \* Dippel, A.C.], *"Neutron and X-ray diffraction analysis of the effect of irradiation dose and temperature on microstructure of irradiated HT-9 steel"*, Journal of Nuclear Materials, Vol.443, iss.1–3, p.522–530, 2013.

[Dombrowski, David E. \* Maloy, Stuart A.], *"Preliminary results for HIP bonding Ta to W targets for the Materials Test Station"*, Advances in Powder Metallurgy and Particulate Materials – 2009, Proceedings of the 2009 International Conference on Powder Metallurgy and Particulate Materials, PowderMet 2009, p.342–354, 2009.

[Nelson, A.T. \* Dombrowski, D.E. \* Maloy, S.A. \* Hosemann, P. \* Hubele, N.D.], *"Development of diffusion–bonding parameters for tungsten and tantalum to steel"*, Proceedings of the 7th International Conference on Tungsten, Refractory and Hardmaterials, p.9139–9157, 2008.

[Cunningham, N.J. \* Wu, Y. \* Etienne, A. \* Haney, E.M. \* Odette, G.R. \* Stergar, E. \* Hoelzer, D.T. \* Kim, Y.D. \* Wirth, B.D. \* Maloy, S.A.], *"Effect of bulk oxygen on 14YWT nanostructured ferritic alloys"*, Journal of Nuclear Materials, Vol.444, iss.1–3, p.35–38, 2014.

[Li, Meimei \* Olive, Dan \* Trenikhina, Yulia \* Ganegoda, Hasitha \* Terry, Jeff \* Maloy, Stuart A.], *"Study of irradiated mod.9Cr–1Mo steel by synchrotron extended X–ray absorption fine structure"*, JOURNAL OF NUCLEAR MATERIALS, Vol.441, iss.1–3, p.674–680, OCT 2013.

[Baek, Jong–Hyuk \* Byun, Thak Sang \* Maloy, Stuart A. \* Toloczko, Mychailo B.], *"Investigation of temperature dependence of fracture toughness in high–dose HT9 steel using small–specimen reuse technique"*, Journal of Nuclear Materials, Vol.444, iss.1–3, p.206–213, 2014.

[Sun, C. \* Bufford, D. \* Chen, Y. \* Kirk, M. A. \* Wang, Y. Q. \* Li, M. \* Wang, H. \* Maloy, S. A. \* Zhang, X.], *"In situ study of defect migration kinetics in nanoporous Ag with enhanced radiation tolerance"*, SCIENTIFIC REPORTS, Vol.4, p.3737, JAN 17 2014.

[Sun, C. \* Ma, J. \* Yang, Y. \* Hartwig, K.T. \* Maloy, S.A. \* Wang, H. \* Zhang, X.], *"Temperature and grain size dependent plastic instability and strain rate sensitivity of ultrafine grained austenitic Fe–14Cr–16Ni alloy"*, Materials Science and Engineering A, Vol.597, p.415–421, 2014.



[Byun, Thak Sang \* Yoon, Ji Hyun \* Wee, Sung Hun \* Hoelzer, David T. \* Maloy, Stuart A.], *"Fracture behavior of 9Cr nanostructured ferritic alloy with improved fracture toughness"*, Journal of Nuclear Materials, Vol.449, iss.1-3, p.39-48, June 2014.

[Sun, C. \* Brown, D. W. \* Clausen, B. \* Foley, D. C. \* Yu, K. Y. \* Chen, Y. \* Maloy, S. A. \* Hartwig, K. T. \* Wang, H. \* Zhang, X.], *"In situ neutron diffraction study on temperature dependent deformation mechanisms of ultrafine grained austenitic Fe-14Cr-16Ni alloy"*, INTERNATIONAL JOURNAL OF PLASTICITY, Vol.53, p.125-134, FEB 2014.

[Huang, Zijing \* Harris, Adrian \* Maloy, Stuart A. \* Hosemann, Peter], *"Nanoindentation creep study on an ion beam irradiated oxide dispersion strengthened alloy"*, Journal of Nuclear Materials, Vol.451, iss.1-3, p.162-167, August 2014.

[Nelson, A. T. \* Sooby, E. S. \* Kim, Y-J \* Cheng, B. \* Maloy, S. A.], *"High temperature oxidation of molybdenum in water vapor environments"*, JOURNAL OF NUCLEAR MATERIALS, Vol.448, iss.1-3, p.441-447, MAY 2014.

[Marino, A. \* Lim, J. \* Keijers, S. \* Van den Bosch, J. \* Deconinck, J. \* Rubio, F. \* Woloshun, K. \* Caro, M. \* Maloy, S. A.], *"Temperature dependence of dissolution rate of a lead oxide mass exchanger in lead-bismuth eutectic"*, JOURNAL OF NUCLEAR MATERIALS, Vol.450, iss.1-3, p.270-277, JUL 2014.

[Latge, Ch. \* Wohlmuther, M. \* Dai, Y. \* Gavillet, D. \* Gessi, A. \* Guertin, A. \* Hammer, B. \* Heintz, S. \* Henry, J. \* Konstantinovic, M. \* Lindau, R. \* Maloy, S. \* Neuhausen, J. \* Saito, S. \* Schumann, D. \* Thomsen, K. \* Tr A. \* Wagner, W.], *"Decommissioning and PIE of the MEGAPIE spallation target"*, International Nuclear Fuel Cycle Conference, GLOBAL 2013: Nuclear Energy at a Crossroads, Vol.1, p.651-657, 2013.

[Byun, Thak Sang \* Baek, Jong-Hyuk \* Anderoglu, Osman \* Maloy, Stuart A. \* Toloczko, Mychailo B.], *"Thermal annealing recovery of fracture toughness in HT9 steel after irradiation to high doses"*, JOURNAL OF NUCLEAR MATERIALS, Vol.449, iss.1-3, p.263-272, JUN 2014.

[Byun, Thak Sang \* Yoon, Ji Hyun \* Hoelzer, David T. \* Lee, Yong Bok \* Kang, Suk Hoon \* Maloy, Stuart A.], *"Process development for 9Cr nanostructured ferritic alloy (NFA) with high fracture toughness"*, JOURNAL OF NUCLEAR MATERIALS, Vol.449, iss.1-3, p.290-299, JUN 2014.

[Chen, Wei-Ying \* Miao, Yinbin \* Tomchik, Carolyn A. \* Mo, Kun \* Gan, Jian \* Okuniewski, Maria A. \* Wu, Y.Q. \* Maloy, Stuart A. \* Stubbins, James F.], *"TEM, APT and hardness studies of neutron-irradiated ferritic Fe-Cr single crystals"*, Transactions of the American Nuclear Society, Vol.110, p.1006-1008, 2014.

[Was, G. S. \* Jiao, Z. \* Getto, E. \* Sun, K. \* Monterrosa, A. M. \* Maloy, S. A. \* Anderoglu, O. \* Sencer, B. H. \* Hackett, M.], *"Emulation of reactor irradiation damage using ion beams"*, SCRIPTA MATERIALIA, Vol.88, p.33-36, OCT 1 2014.

[Tank, A. Saleh \* Osman, Anderoglu \* Stuart, A. Maloy \* Odette, G. Robert \* Tobias, J. Romero], *"Irradiation Effects on LWR Accident Tolerant Fuels Cladding Materials"*, Transactions of the American Nuclear Society, Vol.110, p.1004–1005, 2014.

[Was, G.S. \* Jiao, Z. \* Getto, E. \* Sun, K. \* Monterrosa, A.M. \* Maloy, S.A. \* Anderoglu, O. \* Sencer, B.H. \* Hackett, M.], *"Erratum: Emulation of reactor irradiation damage using ion beams (Scripta Materialia (2014) 88 (33–36))"*, Scripta Materialia, Vol.93, p.60, 2014.

[Yablinsky, C. A. \* Tippet, K. E. \* Vaynman, S. \* Anderoglu, O. \* Fine, M. E. \* Chung, Y. -W. \* Speer, J. G. \* Findley, K. O. \* Dogan, O. N. \* Jablonski, P. D. \* Maloy, S. A. \* Hackenberg, R. E. \* Clarke, A. J. \* Clarke, K. D.], *"Concepts for the Development of Nanoscale Stable Precipitation-Strengthened Steels Manufactured by Conventional Methods"*, JOM, Vol.66, iss.12, p.2467–2475, DEC 2014.

[Sun, C. \* Zheng, S. \* Wei, C. C. \* Wu, Y. \* Shao, L. \* Yang, Y. \* Hartwig, K. T. \* Maloy, S. A. \* Zinkle, S. J. \* Allen, T. R. \* Wang, H. \* Zhang, X.], *"Superior radiation-resistant nanoengineered austenitic 304L stainless steel for applications in extreme radiation environments"*, SCIENTIFIC REPORTS, Vol.5, p.7801, JAN 15 2015.

[Hofer, C. \* Stergar, E. \* Maloy, S. A. \* Wang, Y. Q. \* Hosemann, P.], *"An intermetallic forming steel under radiation for nuclear applications"*, JOURNAL OF NUCLEAR MATERIALS, Vol.458, p.361–368, MAR 2015.

[Bach, H. T. \* Anderoglu, O. \* Saleh, T. A. \* Romero, T. J. \* Kelsey, C. T. \* Olivas, E. R. \* Sencer, B. H. \* Dickerson, P. O. \* Connors, M. A. \* John, K. D. \* Maloy, S. A.], *"Proton irradiation damage of an annealed Alloy 718 beam window"*, JOURNAL OF NUCLEAR MATERIALS, Vol.459, p.103–113, APR 2015.

[Sarkar, Apu \* Maloy, Stuart A. \* Murty, Korukonda L.], *"Investigation of Portevin – Le Chatelier effect in HT-9 steel"*, MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, Vol.631, p.120–125, APR 17 2015.

[Sun, C. \* Kirk, M. \* Li, M. \* Hattar, K. \* Wang, Y. \* Anderoglu, O. \* Valdez, J. \* Uberuaga, B.P. \* Dickerson, R. \* Maloy, S.A.], *"Microstructure, chemistry and mechanical properties of Ni-based superalloy Rene N4 under irradiation at room temperature"*, Acta Materialia, Vol.95, p.357–365, 15 August 2015.

[Chen, Wei-Ying \* Miao, Yinbin \* Wu, Yaqiao \* Tomchik, Carolyn A. \* Mo, Kun \* Gan, Jian \* Okuniewski, Maria A. \* Maloy, Stuart A. \* Stubbins, James F.], *"Atom probe study of irradiation-enhanced ? precipitation in neutron-irradiated Fe-Cr model alloys"*, Journal of Nuclear Materials, Vol.462, p.242–249, 1 July 2015.

[Sun, C. \* Uberuaga, B.P. \* Yin, L. \* Li, J. \* Chen, Y. \* Kirk, M.A. \* Li, M. \* Maloy, S.A. \* Wang, H. \* Yu, C. \* Zhang, X.], *"Resilient ZnO nanowires in an irradiation environment: An in situ study"*, Acta Materialia, Vol.95, p.156–163, 15 August 2015.