

PUBLICATIONS **Thesis**

“Temperature dependence of phonons in elemental cubic metals studied by inelastic scattering of neutrons and X-rays” Ph.D. Thesis, California Institute of Technology (2008).

Journal Articles

“Nonharmonic phonons in α -iron at high temperatures,” L. Mauger, M.S. Lucas, J.A. Munõz, S.J. Tracy, **M. Kresch**, Y. Xiao, P. Chow, and B. Fultz, Phys. Rev. B 90, 064303 (2014).

“Effects of vacancies on phonon entropy of B2 FeAl,” M.S. Lucas, O. Delaire, M.L. Winterrose, T. Swan-Wood, **M. Kresch**, I. Halevy, B. Fultz, J. Hu, M. Lerche, and M. Somayazulu, Phys. Rev. B 80, 214303 (2009).

“Phonon density of states of LaFeAsO-1-x F-x,” A.D. Christianson, M.D. Lumsden, O. Delaire, M.B. Stone, D.L. Abernathy, M.A. McGuire, A.S. Sefat, R. Jin, B.C. Sales, D. Mandrus, E.D. Mun, P.C. Canfield, J.Y.Y. Lin, M. Lucas, **M. Kresch**, J.B. Keith, B. Fultz E.A. Goremychkin, and R.J. McQueeney, Phys. Rev. Lett. 101, 157004 (2008).

“Electron-phonon interactions and high-temperature thermodynamics of vanadium and its alloys,” O. Delaire, **M. Kresch**, J.A. Munõz, M.S. Lucas, J.Y.Y. Lin, and B. Fultz, Phys. Rev. B 77, 214112 (2008).

“Adiabatic electron-phonon interaction and high temperature thermodynamics of A15 compounds,” O. Delaire, M.S. Lucas, J.A. Munõz, **M. Kresch**, and B. Fultz, Phys. Rev. Lett. 101, 105504 (2008).

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“Phonons in aluminum at high temperatures studied by inelastic neutron scattering,” **M. Kresch**, M. Lucas, O. Delaire, and B. Fultz, Phys. Rev. B 77, 024301 (2008).

“Neutron scattering measurements of phonons in nickel at elevated temperatures,” **M. Kresch**, O. Delaire, R. Stevens, J.Y.Y. Lin, and B. Fultz, Phys. Rev. B 75, 104301 (2007).

“Phonons and thermodynamics of unmixed and disordered $Li_{0.6}FePO_4$,” R. Stevens, J.L. Dodd, **M.G. Kresch**, R. Yazami, B. Fultz, B. Ellis and L.F. Nazar, J. Phys. Chem. B 110, 22732 (2006).

“Vibrational entropy of the γ - α martensitic transformation in $Fe_{71}Ni_{29}$,” O. Delaire, **M. Kresch**, and B. Fultz, Philos. Mag. 85, 3567 (2005).

Books

Experimental Inelastic Neutron Scattering, B. Fultz, T. Kelley, M. McKerns, J. Lin, J. Lee, O. Delaire, **M. Kresch**, and M. Aivazis, California Institute of Technology (2009).

Presentations

“Adiabatic electron-phonon coupling in the A15 compounds V3Si, V3Ge, and V3Co,” O. Delaire, J. Munõz, M. Lucas, **M. Kresch**, and B. Fultz, APS March Meeting, 2009.

“Adiabatic electron-phonon interaction at high temperature of A15 compounds,” J. Munõz, O. Delaire, M. Lucas, **M. Kresch**, and B. Fultz, APS October Meeting, 2008.

“Electron-phonon interaction and high-temperature thermodynamics in vanadium alloys and compounds,” O. Delaire, **M. Kresch**, M. Lucas, J. Munõz, J. Lin, and B. Fultz, APS March Meeting, 2008.

“Phonons in nickel and aluminum at elevated temperatures from neutron scattering,” **M. Kresch**, O. Delaire, R. Stevens, J.Y.Y. Lin, and B. Fultz, APS March Meeting, 2007.

“Anharmonic phonons in vanadium alloys and compounds,” O. Delaire, **M. Kresch**, M. Lucas, R. Stevens, J. Muñoz, and B. Fultz, APS March Meeting, 2007.

“Thermodynamic effects of resonance modes in Al-Ag,” **M.G. Kresch**, T.L. Swan-Wood, O. Delaire, and B.T. Fultz, TMS Annual Meeting and Exhibition, 2006.

“Non-configurational entropy in dilute vanadium alloys,” O. Delaire, T. Swan-Wood, **M. Kresch**, and B. Fultz, TMS Annual Meeting and Exhibition, 2006.

“Anharmonic phonon thermodynamics in transition metal alloys at high temperatures,” B. Fultz, O. Delaire, M. Lucas, T. Swan-Wood, and **M. Kresch**, American Conference on Neutron Scattering, 2006.

“Charge transfer and phonon thermodynamics in vanadium alloys,” O. Delaire, **M. Kresch**, and B. Fultz, American Conference on Neutron Scattering, 2006.

“Entropy of the γ - α martensitic phase transformation in $Fe_{79}Ni_{21}$,” O. Delaire, **M. Kresch**, and B. Fultz, TMS-PTM conference, 2005.

“Phonon entropy of alloying in dilute vanadium alloys,” O. Delaire, T. Swan-Wood, **M. Kresch**, and B. Fultz, APS March Meeting, 2005.

“Phonon thermodynamics of transition metals and alloys,” O. Delaire, T. Kelley, T. Swan-Wood, **M. Kresch**, and B.T. Fultz, LANSCE Activity Report 2005.

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“Temperature dependence of the phonon entropies of nickel and chromium,” **M. Kresch**, O. Delaire, R. Stevens, and B. Fultz, American Conference on Neutron Scattering, 2006.

“Thermodynamics of phonons and electrons in vanadium alloys,” O. Delaire, T. Swan-Wood, **M. Kresch**, J. Lin, M. McKerns and B. Fultz, American Conference on Neutron Scattering, 2006.