

Selected Publications

1. A. Teklu, N. F. Declercq, and M. McPherson, 2014. "Acousto-optic Bragg imaging of biological tissue". *J. Acoust. Soc. Am.*, vol. **136** (2), p. 634-637.
2. Nico F. Declercq, Michael S. McPherson, Mack A. Breazeale, and Alem A. Teklu, 2010. "Optical Bragg Imaging of Acoustic Fields after Reflection". *J. Acoust. Soc. Am.*, vol. **127** (6), p. 3466 – 3469.
3. Ana Oprisan, Sorinel Oprisan, and Alem Teklu, 2010. "Experimental Study of Nonequilibrium Fluctuations During Free Diffusion in Nanocolloids Using Microscopic Techniques". *Applied Optics*, vol. **49**, No. 1, pp. 86-98.
4. A. Teklu, Michael S. McPherson, M. A. Breazeale, Roger D. Hasse, and Nico F. Declercq, 2009. "Authors' Response to Strasburg's "Comments on 'Measurement of the Frequency Dependence of the Ultrasonic Parametric Threshold Amplitude for a Fluid-Filled Cavity'"". *J. Acoust. Soc. Am.*, vol. **126** (6), p. 2854-2855.
5. M. McPherson, M. A. Breazeale, and A. Teklu, 2007. "Stability Zones and Acoustic Parametric Oscillation". *Proceedings of the 19th International Congress on Acoustics, Madrid, Spain.*
6. A. Teklu, H. Ledbetter, S. Kim, and L. A. Boatner, V. Keppens, M. McGuire, 2007. "Single Crystal Elastic Constants of 70Fe-15Ni-15Cr Alloy". *Metallurgical and Materials Transactions A*, vol **35**, pp. 3149-53 (electronic publication: SpringerLink date April 07, 2007).
7. A. Teklu, M. S. McPherson, M. A. Breazeale, R. D. Hasse, and N. F. Declercq, 2006. "Measurement of the Frequency Dependence of the Ultrasonic Parametric Threshold Amplitude for a Fluid-Filled Cavity". *J. Acoust. Soc. Am.*, vol. **120** (2), p. 657 – 660.
8. A. Teklu, M. A. Breazeale, N. F. Declercq, R. Hasse, and M. McPherson, 2005. "Backward Displacement of Ultrasonic Waves Reflected from a Periodically Corrugated Interface". *Journal of Applied Physics*, vol. **97**, p. 084904-084907.
9. N. F. Declercq, A. Teklu, M. A. Breazeale, R. D. Hasse, J. Degrieck, and O. Leroy, 2005. "Detection of Fiber Direction in Composites by Means of a High-Frequency Wide-Bounded Beam and Schlieren Photography". *Research in Nondestructive Evaluation*, vol. **16**, No. 2, p. 55-64.
10. N. F. Declercq, A. Teklu, M. A. Breazeale, R. Briers, O. Leroy, J. Degrieck, and G. N. Shkerdin, 2004. "Study of the Scattering of Leaky Rayleigh Waves at the Extremity of a Fluid-loaded Thick Plate". *Journal of Applied Physics (JAP)*, vol. **96**, No. 10, pp 5836-5840.
11. A. Teklu, H. Ledbetter, S. Kim, and L. A. Boatner, V. Keppens, M. McGuire, 2004. "Single Crystal Elastic Constants of 70Fe-15Ni-15Cr Alloy". *Metallurgical and Materials Transactions A*, vol **35**, pp. 3149-53.
12. V. Keppens, M. McGuire, A. Teklu, C. Laermans, B. C. Sales, D. Mandrus, and B. C. Chakoumakos, 2002. "Glasslike Excitations in Single Crystalline $\text{Sr}_8\text{Ga}_{16}\text{Ge}_{30}$ Clathrates". *Physica B*, **316-317**, pp. 95-100.
13. D. Hall, D. P. Young, Z. Fisk, T. P. Murphy, E. C. Palm, A. Teklu and R. G. Goodrich 2001. "Fermi Surface Measurements on the Low Carrier Density Ferromagnet $\text{Ca}_{1-x}\text{La}_x\text{B}_6$ and SrB_6 ". *Physical Review B*, vol. **64**, 233105.
14. N. Harrison, L. Balicas, A. Teklu, R. G. Goodrich, J. S. Brookes, J. L. Smith and J. Cooley, 2001. "Mixed Valence of U determined using the de Haas-van Alphen Effect: Application to $\text{U}_x\text{Th}_{1-x}\text{Be}_{13}$ ". *Physical Review B*, vol. **63**, 081101-1(R).
15. N. Harrison, R. G. Goodrich, A. Teklu, L. Balicas, J. S. Brookes, D. Young, Z. Fisk, J. C. Cooley, and J. L. Smith, 2001. "The Kondo effect to Heavy Fermions Studied using the de Haas – van Alphen effect". *Physica B*, **294-295**, pp. 234-239.

16. A. Teklu, R. G. Goodrich, N. Harrison, D. Hall, D. Young, and Z. Fisk 2000. "Fermi Surface Properties of Low Concentration $Ce_xLa_{1-x}B_6$ Alloys". *Physical Review B*, vol. **62**, No. 19, 12875.
17. R. G. Goodrich, N. Harrison, A. Teklu, D. Young and Z. Fisk 1999. "Development of High Field Heavy Fermion Ground State in $Ce_xLa_{1-x}B_6$ Intermetallics". *Physical Review Letters*, vol. **82**, No. 18, 3669.
18. R. G. Goodrich, N. Harrison, J. J. Vuillemin, A. Teklu, D. W. Hall, Z. Fisk, D. Young and J. Sarrao 1998. "Fermi Surface of Ferromagnetic EuB_6 ". *Physical Review B*, vol. **58**, No.22, 14896.

Conference Proceedings

Conference Papers

19. A. Oprisan, S. A. Oprisan, A. Teklu, J. J. Hegseth, 2011. "Estimate effective interaction potentials from the static structure factor in pure fluids and nanocolloids, NanoTech conference proceeding, Boston, NSTI-Nanotech 2011, Vol 1, 2011.
20. A. Oprisan, S. A. Oprisan, and A. Teklu, 2010. "Dynamics of Intermediate to Late Stage Concentration Fluctuations During Free Diffusion Experiments". *NSTI-Natech*, vol **1**, pp. 71-74.
21. Nico F. Declercq , A. Teklu, M. A. Breazeale, Roger D. Hasse, Joris Degrieck, Oswald Leroy, 2005. "Fiber direction determination in composites by means of Schlieren photography ", **Proc. SPIE Int. Soc. Opt. Eng.** 5828, 123.
22. Nico F. Declercq , A. Teklu, M. A. Breazeale, Joris Degrieck, Oswald Leroy, 2005. "Schlieren Photography as a great tool to study wave diffraction at the end of a plate", **Proc. SPIE Int. Soc. Opt. Eng.** 5828, 117.
23. Efreem Dawit, K. P. Thakur, Kidane Belay, Alem Abraha Teklu, F. Habte, and Tquabo T/Michael, 1992. "Equation of state for sodium Chloride up to 300 kb", *Proc. Eritrean Chem. Soc.*, Asmara, Eritrea.

Conference Abstracts, Poster and Oral Presentations (myself and co-authors)

24. Matthew Palumbo, Alem Teklu, Narayanan Kuthirummal, Nicole Levi-Polyachenko, 2016. "Nanoindentation of Chitosal Doped with Silver Nanoparticles", *APS March Meeting 2016*, Baltimore, MD.
25. Alem Teklu, Nico, F. Declercq, and Michael McPherson, 2015. "Cost-effective Potential Application of Acousto-Optic Bragg Imaging of Biological Tissue", *Acoustical Society of America (ASA)*, 125thJacksonville, FL.
26. Alexis Payne, Alem Teklu, and Michael Larsen, 2015. "Resolving airborne particulate concentration inhomogeneities with a Schlieren optical technique", *46th Annual Meeting of the APS Division of Atomic, Molecular, Optical Physics*, vol. 60, No. 7.
27. Luther Meyer and Alem Teklu, 2014. "Triboelectric Power Generation", *Department of Physics & Astronomy, College of Charleston, Charleston, SC.*
28. Luther Meyer and Alem Teklu, 2014. "Triboelectric Power Generation", *School of Sciences and Mathematics (SSM) Poster Session, College of Charleston, Charleston, SC.*
29. Alem Teklu, 2013. "Characterization of Magnetostrictive Galfenol and Device Development for Energy Harvesting", *Sabbatical Presentation, Department of Physics & Astronomy, College of Charleston, Charleston, SC.*
30. Shea McSween and Alem Teklu, 2013. "Using Schlieren Optical Methods to Image Changes in the Refractive Index of Transparent Media", *Celebration of Summer Scholars, College of Charleston, Charleston, SC.*

31. Stacy D. Varner and Alem Teklu, 2012. "Elastic Constants of Epoxy Using Resonant Ultrasound Spectroscopy", School of Sciences and Mathematics (SSM) Poster Session, College of Charleston, Charleston, SC.
32. Agrest Michael and Alem Teklu, 2010. "Principles, Reasoning, Rules of Thumb and Mnemonics; Advantages and Disadvantages" American Association of Physics Teachers (AAPT), Washington DC.
33. Alem Teklu and Joseph Niehaus, 2010. "Resonant Ultrasound Spectroscopy in Gamma Brass and Doped Cobalt Antimony", School of Sciences and Mathematics (SSM) Poster Session, College of Charleston, Charleston, SC.
34. Tim Faugl and Alem Teklu, 2010. "Resonant Ultrasound Spectroscopy in Thermoelectric Materials and Heavy Fermion Superconductors", School of Sciences and Mathematics (SSM) Poster Session, College of Charleston, Charleston, SC.
35. Alem Teklu, Michael S. McPherson, M. A. Breazeale, and Nico F. Declercq, 2010. "Frequency dependence of the ultrasonic parametric amplitude for a fluid-filled cavity" 159th ASA meeting/NOISE-CON 2010 meeting, Baltimore, MD
36. Alem Teklu, Michael S. McPherson, M. A. Breazeale, and Nico F. Declercq, 2010. "Theoretical and experimental investigation of the backward beam displacement" 159th ASA meeting/NOISE-CON 2010 meeting, Baltimore, MD
37. Michael S. McPherson, M. A. Breazeale, Nico F. Declercq, and Alem Teklu, 2010. "Optical Bragg imaging of acoustic fields after reflection", J. Acoust. Soc. Am. 127, 1845, 2010. Abstract in **Journal of the Acoustical Society of America** 127, 1845, 2010.
38. S. A. Oprisan, A. Oprisan, and A. Teklu, 2010. "Determination of Planck's constant using photoelectric effect with monochromatic light emitting diodes sources", Southern Atlantic Coast Section of the American Association of Physics Teachers (SACS-AAPT), University of South Carolina, Aiken, SC
39. Mikhail M. Agrest and Alem Teklu, 2010. "Principles, Reasoning, Rules of Thumb, and Mnemonics; Advantages and Disadvantages", April Meeting of APS-AAPT, Washington, DC.
40. A. Oprisan, S.A. Oprisan, A. Teklu, J. Hegseth, Y. Garrabos, and D. Beysens, 2009. "Searching for a possible universal character of non-equilibrium fluctuations", APS March Meeting, Pittsburg, PA.
41. A. Teklu, N. Kuthirummal, D. Morall, and J. Dandrea, 2008 "Acoustic and Optical Properties of Er-doped LiNbO_3 ", APS March Meeting, New Orleans, LA.
42. N. Kuthirummal, A. Dean, R. Smith, and A. Teklu, 2008 "Photo formation of Gold Nanoparticles in Au(III)-Chitosan Silica Aerogels: Dependence on Wavelength and Duration of Exposure, APS March Meeting, New Orleans, LA.
43. A. Oprisan, S. Oprisan, and A. Teklu, 2008. "Imaging Density Fluctuations in Liquids using Schlieren Photographic Technique", APS March Meeting, New Orleans, LA.
44. S. A. Oprisan, A. Oprisan, and A. Teklu, 2007. "Physics experiments using PASCO", Physics colloquium series, Department of Physics and Astronomy, College of Charleston, Charleston, SC.
45. Alem Teklu, Nico F. Declercq, Mack A. Breazeale, Roger Hasse, M. McPherson, 2005. "Measurement of the Frequency Dependence of the Ultrasonic Parametric Threshold Amplitude for a Fluid-filled Cavity", Physics colloquium series, Department of Physics and Astronomy, College of Charleston, Charleston, SC.
46. A. A. Teklu, Mack A. Breazeale, M. McPherson, Roger Hasse, Nico F. Declercq, "On the frequency dependence of the threshold amplitude for the ultrasonic parametric oscillator", Poster Presentation TuPpm4-01, at the World Congress on Ultrasonics - Ultrasonics International, 29 August - 1 September 2005, Friendship Hotel, Beijing, China.

47. Nico F. Declercq , A. Teklu, M. A. Breazeale, Roger D. Hasse, Joris Degrieck, Oswald Leroy, 2004. "Fiber direction determination in composites by means of Schlieren photography " Proceedings of 51st open seminar on Acoustics, Joint with 9th School of Acousto Optics and Applications , Gdansk, Poland , 6-10/09.
48. Nico F. Declercq, A. Teklu, M. A. Breazeale, Joris Degrieck, and Oswald Leroy, 2004. "The Schoch effect as a means to detect the principal axes of a piezoelectric crystal", J. Acoust. Soc. Am. **115**, 2569.
49. Alem A. Teklu, Nico F. Declercq, and Mack A. Breazeale, 2004. "Measurement of the frequency dependence of the ultrasonic parametric threshold Amplitude" J. Acoust. Soc. Am. **115**, 2533.
50. Nico F. Declercq, A. Teklu, M. A. Breazeale, Rudy Briers, Oswald Leroy, and Joris Degrieck, 2004. "The diffraction of leaky Rayleigh waves at the extremity of a fluid-loaded plate" J. Acoust. Soc. Am. **115**, 2472.