

Jonathan Robert Felts

Graduate Institution: University of Illinois at Urbana-Champaign

Graduate Discipline: Mechanical Engineering

Hometown: Buford, GA

Relevant SC Research: Basic Energy Sciences



Research Interest:

My primary research focus involves tip-based nanometer scale manufacturing and metrology using low power and relatively low cost atomic force microscopy equipment. My primary nano-manufacturing interests focus on patterning chemistry at the nanometer scale using heated atomic force microscope tips, particularly patterning materials with unique optical, electrical, and biological properties. My nano-metrology interests include atomic force microscope-based infrared absorption spectroscopy (AFM-IR) of organic and semiconducting micro/nanostructures. This includes determining chemical composition of complex, multi-material structures manufactured at the nanometer scale, as well as improving the resolution and sensitivity of the technique to measure structures smaller than 100 nm.

manufacturing and metrology. In addition to joining the 2010 DOE fellowship cohort, Felts is the recipient of the Eugene and Lina Abraham Endowed PhD Supplemental Fellowship for 2010 and a member of Pi Tau Sigma and Tau Beta Pi honor societies. He has authored or co-authored seven papers and one patent

About Me:

Jonathan Felts earned a BS degree in mechanical engineering from Georgia Institute of Technology in 2008. He received his MS from Illinois in 2009, with a thesis project entitled, "Atomic Force Microscope Cantilever with Reduced Second Order Harmonic Frequency during Tip-Surface Contact," and is currently pursuing his PhD under the advisement of MechSE professor William P. King. His research focus is in tip-based methods for nanometer scale



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