

Brent Ross Carroll

Assistant Professor of Physics
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Current Position

Position Title: Assistant Professor of Physics
Current Academic Rank: Assistant Professor
Rank Since: Fall 2011

Degrees

Ph.D.	Physics, Texas Tech University, Lubbock, Texas 2010 Dissertation: Muonium in Silicon Germanium Alloys
M.S.	Applied Physics, Texas Tech University, Lubbock, Texas 2009
B.S.	Physics, Texas Tech University, Lubbock, Texas 2006

Scholarly Contributions and Creative Productions

Grants

Carroll, B.R. (2012). Titania nanostructures for lunar applications. Arkansas Space Grant Consortium - 2383.

Seok, I., Kemp, B., Dolan, M.C., Hwang, Y., Carroll, B.R., & Engelken, R. (2012). "MRI: Acquisition of a Mask Aligner for Micro/Nano-Fabrication Research at Arkansas State University". National Science Foundation - 299972.

Journal Publications

Carroll, B., Lichti, R., King, P., Celebi, Y., Yonenaga, I., & Chow, K. (2010). Muonium defect levels in Czochralski-grown silicon-germanium alloys. Phys. Rev. B, 82, 205205.

Carroll, B.R., Lichti, R.L., Mengyan, P.W., Baker, B.B., Celebi, Y.G., King, P.J., Chow, K.H., & Yonenaga, I. (2013). Spectroscopic Identification of Shallow Muonium Acceptor States in Si_{0.06}Ge_{0.94}. Physical Review B – Rapid Communications, Submitted July 2013.

Presentations

Jayarathna, G., Hudy, L., Mengyan, P.W., Baker, B.B., Carroll, B.R., Celebi, Y.G., & Lichti, R.L. (2012). Cyclic Transition Processes for Muonium in SiGe Alloys. Bulletin of the American Physical Society.

Carroll, B.R., & Engelken, R.D. (2012). Thin-film photovoltaics research at Arkansas State University. 20th Annual Arkansas Space Grant Consortium Symposium.

Carroll, B.R. (2011). Characterization of Photovoltaic Thin Films & Materials at ASU. ASSET Initiative 2011 Annual Meeting.

Carroll, B.R., & Engelken, R. (2011). Semiconductor film/nanomaterial research at Arkansas State University. 19th Annual Arkansas Space Grant Consortium Symposium.

Proceedings Publications

Baker, B.B., Celebi, Y.G., Lichti, R.L., Bani-Salameh, H.N., Mengyan, P.W., & Carroll, B.R. (2012). Initial Study of Positively Charged Muonium Motion in ZnO, CdO, TiO₂, and SnO₂. Physics Procedia, 30, 101-104.

Mengyan, P.W., Celebi, Y.G., Lichti, R.L., Carroll, B.R., Baker, B.B., Bani-Salameh, H.N., & Yonenaga, I. (2012). Longitudinal Muon Spin Depolarization in Ge-Rich SiGe Alloys. Physics Procedia, 30, 214-218.

Newell, M.J., Engelken, R., Hall, J., Mughal, M.A., Felizco, F., Vangilder, J., Thapa, S., McNew, D., Hill, Z., & Carroll, B.R. (2011). Elemental sulfur-based electrodeposition of indium sulfide films. 37th IEEE Photovoltaics Specialists Conference, 1322-1326.

Mengyan, P., Lichti, R., Celebi, Y.G., Carroll, B.R., Baker, B., Bani-Salameh, H., & Yonenaga, I. (2011). Muonium Transitions in Ge-rich SiGe Alloys. Physica B: Condensed Matter / Elsevier,

Institutional Committees

University

College Assessment Committee (University) Summer 2012

STEM Den Committee (University) Summer 2012

Teaching

Fall 2010 Courses:

PHYS 2034 002 - University Physics I

PHYS 4553 001 - Principles of Quantum Mechanics

Spring 2011 Courses:

PHYS 2034 001 - University Physics I

PHYS 3203 001 - Electromagnetic Theory

Summer 2011 Courses:

PHYS 1101 001 - INTRO TO SPACE SCIENCE LAB

PHYS 1103 001 - Introduction to Space Science

Fall 2011 Courses:

ESCI 613V 2 - CHALCOPYRITE CULNS2 THIN FILMS
ESCI 613V 3 - BETA PHASE IN2S3 THIN FILMS
ESCI 7121 3 - SEM SOLAR CELL MATERIALS
PHYS 2034 002 - University Physics I
PHYS 3153 001 - Mechanics

Spring 2012 Courses:

PHYS 2034 001 - University Physics I
PHYS 2034 002 - University Physics I

Summer 2012 Courses:

PHYS 1101 001 - INTRO TO SPACE SCIENCE LAB
PHYS 1103 001 - Introduction to Space Science

Fall 2012 Courses:

ESCI 613V 002 - IND RES NANOPOROUS TITANIA
PHYS 1101 001 - INTRO TO SPACE SCIENCE LAB
PHYS 1103 001 - INTRO TO SPACE SCIENCE
PHYS 3272 001 - PHYSICAL INSTRUMENTATION I
PHYS 459V 001 - RESEARCH IN PHYSICS