Michael J. Lim

Professor
Physics & Astronomy

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Education:
BS (Physics), Harvard College
PhD (Physics), University of Michigan, Ann Arbor
Postdoctoral (Physics), National Institute of Standards and Technology, Gaithersburg
Postdoctoral (Physics), Bryn Mawr College

Research Expertise:
Ultracold plasmas | Fiber-coupled confocal microscopy | Laser-induced breakdown spectroscopy

Current projects:
Formation of ultracold atomic plasmas (UCPs). Recombination dynamics in UCPs formed by photoionization of ultracold neutral atoms.

Fiber-coupled confocal microscope for fluorescence correlation spectroscopy to study micelle dynamics. Collaboration with Nathaniel Nucci, Rowan Physics and Rowan MCB.

Member of:
American Physical Society (www.aps.org)

Recent Academic Projects:
Philadelphia-Singapore Optics Research Experience for Undergraduates:
10-week summer program for Philadelphia-area physics majors to perform experimental atomic physics and photonics research at Nanyang Technological University in Singapore. Funded by NSF-IRES

Recent Publications:

Siercke M, Oon FE, Mohan A, Wang Z. W, Lim MJ, Dumke R (2014) Density dependence of the ionization avalanche in ultracold Rydberg gases. Phys Rev A. 89:022701.

Siercke M, Chan K.S, Zhang B, Beian M, Lim MJ, Dumke R (2012) Reconfigurable self-sufficient traps for ultracold atoms based on a superconducting square. Phys Rev A. 85:041403(R).

Zhang B, Siercke M, Chan KS, Beian M, Lim MJ, Dumke R (2012) Magnetic confinement of neutral atoms based on patterned vortex distributions in superconducting disks and rings. Phys Rev A. 85:013404.

Siercke M, Chan KS, Zhang B, Lim MJ, Dumke R (2011) Superconducting atom chips, Proc Intl Quant Elec Conf and CLEO Pacific Rim 2011 (Optical Society of America). I414.

Mueller T, Zhang B, Fermani R, Chan KS, Lim MJ, Dumke R (2010) Programmable trap geometries with superconducting atom chips. Phys Rev A. 81:053624.

Zhang B, Fermani R, Mueller T, Lim MJ, Dumke R (2010) Design of magnetic traps for neutral atoms with vortices in type-II superconducting micro-structures, Phys Rev A. 81:063408.