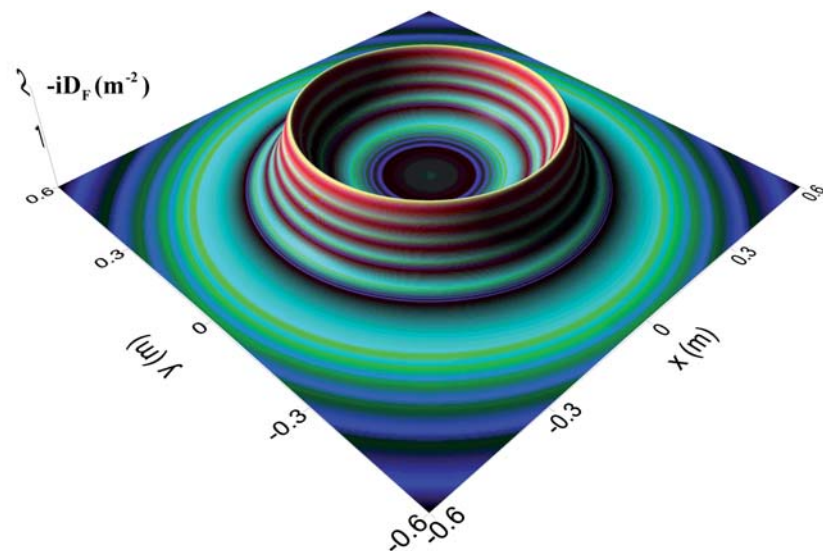


Nonlocal Interferometry: Beyond Bell's Inequality



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This talk will give an overview of non-local interferometry and its applications in quantum key distribution and other areas.

3:00 pm, Monday, November 5, 2007
Sloan Auditorium
Goergen Building
Refreshments follow

Joint Colloquium with Physics and Astronomy

Nonlocal Interferometry: Beyond Bell's Inequality

Professor James Franson

Abstract:

Nonlocal interferometry violates Bell's inequality and it has practical applications in quantum key distribution and other areas as well. This talk will provide an overview of nonlocal interferometry and some of its applications. As time permits, I will also discuss the fact that the Feynman propagator for single photons has nonzero components outside of the forward light cone. That does not allow messages to be transmitted outside of the light cone, but it does allow entanglement and mutual information to be generated between space-like separated points.

Biography:

James Franson received his undergraduate degree in physics from Purdue and his Ph. D in physics from Caltech. After spending a year as a post-doc at Caltech, he joined the Johns Hopkins University, where he held a joint appointment in the Applied Physics Laboratory and the Department of Electrical and Computer Engineering. In 2006, he joined the physics department at the University of Maryland, Baltimore County. He is a fellow of the Optical Society of America.