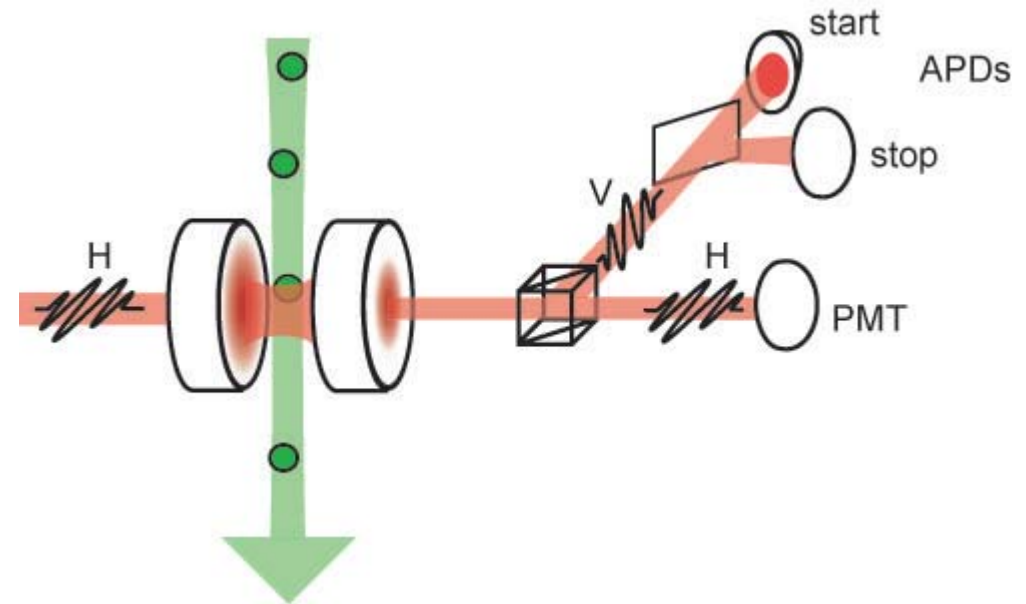


## From photon bursts to quantum beats: Experiments in cavity QED



**Professor Luis A. Orozco**  
**Joint Quantum Institute**  
**University of Maryland**

Ph.D. 1987, University of Texas at Austin.

Experimental studies of the interaction of a Rb atom with the two orthogonal polarization modes of an optical cavity will be presented. Single atom detection and the evolution of quantum beats in the ground state are demonstrated

**3:00 pm, Monday, September 8, 2008**  
Sloan Auditorium, Goergen Building  
Refreshments provided

**Jointly sponsored by Department of Physics and Astronomy**

# From photon bursts to quantum beats: Experiments in cavity QED

Luis A. Orozco  
Joint Quantum Institute  
University of Maryland

The interaction of a Rb atom with the two orthogonal polarization modes of an optical cavity presents new possibilities for single atom detection and the evolution of quantum beats in the ground state. Experiments with moderate coupling between the atom and the modes show conditional dynamics visible through correlation function measurements.

Work done in collaboration with Matthew Terraciano, David Norris, Rebecca Olson, Jietai Jing, Arturo Fernandez, Pablo Barberis, and Eric Cahoon. Supported by NSF and NIST

## Biography

Born 1958 in Guadalajara, Mexico.

Education: Ph.D. 1987, University of Texas at Austin.

### Awards and Fellowships:

Distinguished Traveling Lecturer DLS-APS 2002-2009

American Physical Society Fellow 2000

Optical Society of America Fellow 2003

Institute of Physics (UK) Fellow 2005

Corresponding Member Academia Mexicana de Ciencias 2005

Guggenheim Fellowship 1998-99

IBM Graduate Fellow 1986-87.

Other Activities: Editorial Board Physical Review A (2002-2007); Editorial Board Journal of Optics B (2001-2005); Program Chair, Quantum Electronics and Laser Science Conference, OSA (2003); General Chair, Quantum Electronics and Laser Science Conference, OSA (2005); Executive Committee, Division of Laser Science APS (2005-2007); Joint Council of Quantum Electronics (OSA APS IEEE-LEOS) (2006-2008); International Council of Quantum Electronics (2006-2008); Executive Committee, Division of Laser Science APS (2005-2007).

Publications: More than 75 refereed papers.