



Physics Colloquium
Friday, October 19, 2018
4:00 – 5:00 pm
Paul Sharrah Lecture Hall
PHYS 133

Refreshments Served in PHYS 134 at 3:30 pm



Beyond the Rayleigh limit in optical lithography

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In optical lithography, the feature size in which scientists can write the circuits is limited to half the wavelength of the light by something called the diffraction limit. Many attempts have been made to advance this field beyond the current limit set by the wavelength of the laser used. These methods are usually based on multi-photon processes, multiple beams and/or quantum entanglement making the implementation of these schemes extremely difficult. In this talk, I shall discuss these methods and then present a method for optical sub-wavelength lithography that is only a single preparation step away from the currently implemented lithographic process. This method can allow, in principle, to write a pattern with an accuracy better than a millionth of the wavelength of the light used.