



## سمینار هفتگی گروه اطلاعات کوانتومی

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# Quantum Storage and Manipulation of Optical Information

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### Abstract

I describe my past research on quantum storage and manipulation of light using gradient echo memory technique. I show that light pulses can be efficiently and noiselessly stored in an atomic ensemble. Furthermore, I demonstrate that optical information can be coherently controlled and manipulated while stopped inside the memory.

Then, I present experimental results of multimode cooling of the oscillation modes of a nanowire by means of active control of bolometric forces. This allows to enhance sensing resolution of weak impulsive forces.

Finally I will describe my current research at MIT on continuous non-destructive detection of single photons.