



Physical Sciences Seminar

Gallium arsenide optomechanical resonators in cryogenic environment

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The field of optomechanics aims at exploring the coupling between optical and mechanical degrees of freedom on systems of varying type and scale. It has been developing rapidly in the last 15 years, with a wide variety of systems showing optomechanical coupling.

The works presented focus on Gallium Arsenide (GaAs) nanoscale disks placed in a cryogenic environment (2.7 K). A major goal is to make use of the optomechanical coupling to cool the system further (to ~50mK), so as to reach the so-called quantum regime, where the mechanical degree of freedom has less than one quantum of excitation.

In order to enhance optomechanical cooling, resonators quality factors and optomechanical coupling constants must be maximized. Various optimizations brought to the fabrication of GaAs optomechanical micro disks and to experimental techniques will be developed.

Some other works involving GaAs optomechanical disks will also be briefly presented.

Tuesday, September 5, 2017 02:00pm - 03:30pm

Big Seminar room Ground floor / Office Bldg West (I21.EG.101)



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

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