



Colloquium Notice

Imad Agha

CNRS, Universite Paris-Sud

Generation of pulsed and continuous-wave squeezed light with 87Rb vapor

We present experimental studies on the generation of pulsed and continuous-wave squeezed vacuum via nonlinear rotation of the polarization ellipse in a (87)Rb vapor. Squeezing is observed for a wide range of input powers and pump detunings on the D1 line, while only excess noise is present on the D2 line. The maximum continuous-wave squeezing observed is -1.4 ± 0.1 dB (-2.0 dB corrected for losses). We measure -1.1 dB squeezing at the resonance frequency of the (85)Rb $F = 3 \rightarrow F'$ transition, which may allow the storage of squeezed light generated by (87)Rb in a (85)Rb quantum memory. Using a pulsed pump, pulsed squeezed light with -1 dB of squeezing for 200 ns pulse widths is observed at 1 MHz repetition rate.

Wednesday

April 6, 2011

Starts at 12:15 PM

Coffee at 12:00 PM

Physics Conference Room, SB B326