

Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Why a magnetized quantum wire can act as an optical amplifier

M.S. KUSHWAHA, Rice University — Essentially, we embark on the device aspects of the intersubband collective (magnetoroton) excitations in a quantum wire characterized by a confining harmonic potential and subjected to a perpendicular magnetic field. The computation of the gain coefficient suggests a significant application: the electronic device based on such magnetoroton modes can act as an optical amplifier.

M.S. Kushwaha
Rice University

Date submitted: 29 Nov 2012

Electronic form version 1.4