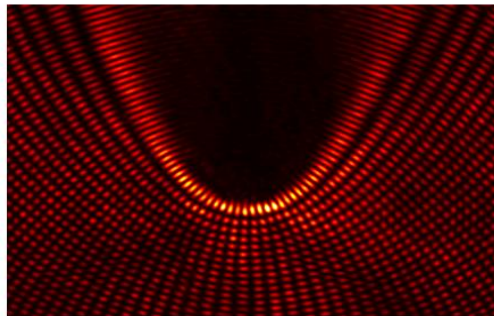


BENEMÉRITA UNIVERSIDAD AUTÓNOMA DE PUEBLA



INSTITUTO DE FÍSICA
“Luis Rivera Terrazas”

SEMINARIO
“DR. JESUS REYES CORONA”



Perfil transversal de un haz de luz Weber experimental.

“Dynamics of ultra-cold atoms in structured light beams”

Dra. Rocío Jáuregui Renaud
Instituto de Física,
Universidad Nacional Autónoma de México.

We study the dynamics of ultra-cold atom clouds that traverse microscopically structured laser beams. In a first scenario, dilute thermal clouds are used to explore the dynamical properties of the light beam. In the particular case of beams with cylindrical symmetry, it is shown that a natural variable of the light which corresponds to the product of the angular momentum along the axis of main propagation of the laser beam with the linear momentum along one of the directions perpendicular to that axis is transmitted from the light beam to the atom cloud. In the second scenario, the atom cloud is in the Bose Einstein condensation regime. Under such conditions, a comparative analysis is performed on the quantum versus classical dynamics of the ground state fraction and of the thermal cloud respectively. This study help us to understand better the border between classical and quantum regimes.

Auditorio-IFUAP

**Viernes 14 de Junio de 2013
13:00 Hrs.**