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UNIVERSITY OF PRETORIA
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Contribution ID: 320

Type: Oral Presentation

Magneto-Optical Trapping of Rubidium Atoms

Thursday, 12 July 2012 09:00 (20 minutes)

Abstract content
 (Max 300 words)

Magneto-Optical Trapping (MOT) is the configuration formed by three orthogonal pairs of counter-propagating circular polarized low intensity laser beams and a magnetic field gradient created by two coils with oppositely directed current. MOT is used to cool, capture and trap atoms in vacuum. Large number of rubidium atoms can be trapped at very low temperature in the micro Kelvin range. The aim of this project is to investigate the influence of the trapping parameters such as detuning of the laser frequency from the resonance, laser beam size, laser power and Polarization, the rubidium pressure, background pressure in the vacuum system and the magnetic field strength on the trapping dynamics and on the number of trapped atoms. The status of the project and latest results will be presented.

Apply to be
 consider for a student
 award (Yes / No)?

Yes

Level for award
(Hons, MSc,
 PhD)?

MSc

Main supervisor (name and email)
and his / her institution

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Would you like to
 submit a short paper
 for the Conference
 Proceedings (Yes / No)?

No

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Session Classification: Photonics

