

Accepted Manuscript

Effect of hydrostatic pressure and magnetic field on electromagnetically induced transparency based nonlinear frequency conversion in quantum ring

Sukirti Gumber, Monica Gambhir, Pradip Kumar Jha, Man Mohan

PII: S0749-6036(16)30887-4

DOI: [10.1016/j.spmi.2016.09.011](https://doi.org/10.1016/j.spmi.2016.09.011)

Reference: YSPMI 4501

To appear in: *Superlattices and Microstructures*

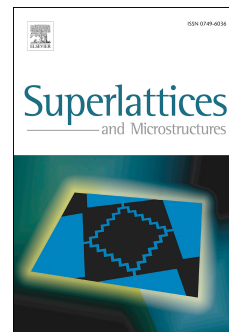
Received Date: 24 May 2016

Revised Date: 27 August 2016

Accepted Date: 6 September 2016

Please cite this article as: S. Gumber, M. Gambhir, P.K. Jha, M. Mohan, Effect of hydrostatic pressure and magnetic field on electromagnetically induced transparency based nonlinear frequency conversion in quantum ring, *Superlattices and Microstructures* (2016), doi: 10.1016/j.spmi.2016.09.011.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Highlights

- EIT based sum frequency generation is studied in 2D quantum ring of finite width.
- The efficiency of nonlinear frequency conversion is observed to be enhanced by EIT.
- The nonlinear susceptibility $\chi^{(3)}$ is found to be strongly dependent on coupling strength.
- At a fixed coupling field, magnetic field further enhances the efficiency.
- Sum-frequency output and its absorption depend inversely on hydrostatic pressure.

Download English Version:

<https://daneshyari.com/en/article/7941962>

Download Persian Version:

<https://daneshyari.com/article/7941962>

[Daneshyari.com](https://daneshyari.com)