Contribution ID: **1273** Type: **Oral (Student, In Competition) / Orale (Étudiant(e), inscrit à la compétition)**

Nanoscale enhancement in quantum state preparation

Wednesday 15 June 2016 09:30 (15 minutes)

The use of nanoscale structures to enhance local electric fields has seen much recent use in improving the effectiveness of numerous, optically-driven systems. As such, we investigate how these nanoscale enhancements can be used to improve the operation of quantum control systems. These nanoscale systems have various different effects on quantum systems, but in most cases are able to increase the local electric field and the spontaneous decay experienced by transitions in the system. The most noticeable property of these enhancements is that are strongly dependant on the position and quantization axis of the system relative to the arrangement of materials in the nanostructure.

With this in mind we investigate how this directional dependance can be exploited to improve the overall operat

Authors: RANGAN, Chitra (University of Windsor); DILORETO, Christopher (University of Windsor)

Presenter: DILORETO, Christopher (University of Windsor)

Session Classification: W1-9 Nonlinear Optics and High Field Physics (DAMOPC) / Optique non linéaire et physique en champs intenses (DPAMPC)

Track Classification: Division of Atomic, Molecular and Optical Physics, Canada / Division de la physique atomique, moléculaire et photonique, Canada (DAMOPC-DPAMPC)