

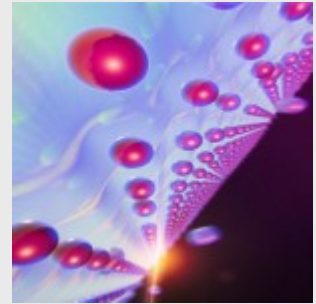
Quantum Optics in Low Dimensions: From Fundamentals to Applications

Title: Quantum Optics in Low Dimensions: From Fundamentals to Applications.

When: Wednesday, February 8, (2017), 12:00.

Place: Departamento de Física de la Materia Condensada, Facultad Ciencias, Module 3, Seminar Room (5th Floor).

Speaker: Alejandro Gonzalez-Tudela, Max Planck Institute für Quantenoptik, Germany.



Recent experimental developments in nanophotonics [1], circuit QED [2] and cold atoms [3] allow to engineer systems where quantum emitters couple to low dimensional photon-like reservoirs with non-trivial energy dispersions. Compared to three-dimensional and structureless baths, the interactions induced by such structured environments can be strongly enhanced and have long-range character.

In this talk, I will show several phenomena that can emerge in these scenarios such as the existence of multi-photon bound states around single quantum emitters [4], the generation of tuneable long-range coherent interactions [5], or how one can boost the fidelities and efficiencies of non-classical states of light [6].

References

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