nanoX invited scientist

Maykel Márquez Mijares

Position Associated Professor

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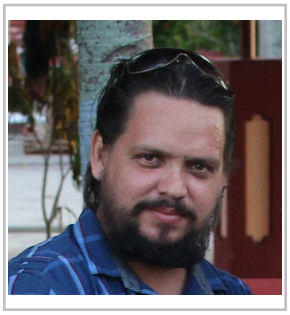

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Host lab at NanoX LCAR Team Theory

NanoX contact Etienne Brion

Dates of stay ???

Brief Biodata

He was born on April 27th, 1982, in Pinar del Río, Cuba. He completed his university studies at Instituto Superior de Tecnologías y Ciencias Aplicadas (InSTEC) in 2006, as Bachelord in Nuclear Physics, and the Master in Nuclear Physics en 2010. His doctoral studies were carried out at Consejo Superior de Investigaciones Científicas and the Autonomous University of Madrid, Spain, which ended in 2012 with cum Lauden. He has published more than 20 articles in high impact journals such as Chemical Physics Letter, The Journal of Chemical Physics, Journal of Applied Physics, International Reviews in Physical Chemistry, Astronomy & Astrophysics, among other. The results of his research have been presented at more than 40 international conferences. At present, is professor at Instituto Superior de Tecnologías y Ciencias Aplicadas (InSTEC), of University of Havana, Cuba.

Research project during the visit at nanoX

Nanofibre-assisted photoassociation of cold rubidium atoms

This theoretical project initiates a collaboration between members of the Theory team at LCAR (É. Brion, B. Lepetit) and a Cuban researcher, M. Márquez-Mijares (Universidad de La Habana). It aims at studying the feasbility of cold molecule formation through the photoassociation of cold atoms in the neighbourhood of an optical nanofibre. Such fibres have recently proven to be versatile and efficient platforms for the investigation of light-matter interaction. The strong evanescent component of the field guided along the fibre can indeed be used for atom trapping and also constitutes a photonic communication channel. Our project constitutes, to our knowledge, the first attempt to use the unique features of optical nanofibres on molecular process control purposes. It will more specifically focus on the photoassociation of two cold Rb atoms in the vicinity of a silica nanofiber.

If relevant, add a figure

Legend