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An atomic vapor medium for analogue gravity in a fluid of light.

Tuesday 23 July 2019 12:45 (15 minutes)

During this presentation I will introduce the basics of warm rubidium vapors for generating a fluid of light. Using the analogy between the non-linear Schrodinger equation and the Gross-Pitaevskii equation, I will answer the question about “Can we observe superfluidity with light ?”

I will also discuss recent non-linear and quantum optics experiments through the perspective of hydrodynamics and I will show what are the surprising consequences of this approach (shock formation, vortex generation...)

Finally, I will open the discussion about the possibility to observe analogue gravity physics in a fluid of light.

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