Contribution ID: **159** Type: **Oral Presentation**

A Bose-Einstein Condensation Machine

Thursday, 12 July 2012 11:20 (20 minutes)

Abstract content
   (Max 300 words)

The experimental demonstration of Bose-Einstein condensation (BEC) is one of the most exciting developments of recent decades and has allowed researchers to study quantum effects on the macroscopic scale with well controllable parameters. This has sparked a flurry of experiments making many contributions to our understanding of solid state physics, quantum optics, atomic physics and precision metrology.

For many BEC experiments it is highly advantageous to have a high number of atoms. This means that all the stages previous to a BEC must also be sufficient to generate and trap a large number of atoms. One of the major challenges in performing such an experiment is to design an adequate and easy-to-use magnetic trapping system with appropriate trapping parameter to maintain large number of atoms. The focus of this presentation will be on a novel configuration Ioffe-Pritchard magnetic trap which is designed to trap a large number of atoms. Also presented will an overview of the entire BEC experiment, as well as the prosed first African BEC machine.

Apply to be
 consider for a student
   award (Yes / No)?

No

Main supervisor (name and email)
and his / her institution

Prof. Francesco Petruccione

Would you like to <br> submit a short paper <br> for the Conference
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YES

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Session Classification: Photonics

Track Classification: Track C - Photonics