



CONSIGLIO NAZIONALE DELLE RICERCHE
ISTITUTO NAZIONALE DI OTTICA

AVVISO DI SEMINARIO

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il Dr. Luca TANZI

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terrà un seminario sul tema:

Studying interacting systems with Bose-Einstein condensates

Abstract.

Ultracold quantum gases provide a unique setting for quantum simulation of interacting many-body problems. Among all, Potassium isotopes (in particular ^{39}K) offer an excellent control of the interatomic interactions due to the presence of several Feshbach resonances. In this talk I will describe the experimental techniques required for producing a Bose-Einstein (BEC) condensate of ^{39}K atoms. Then I will discuss two applications where many-body effects have been observed using ^{39}K BEC: the dissipation mechanism of a one-dimensional superfluid and the stabilization mechanism of an attractive Bose-Bose mixture.