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Bose-Einstein condensationA new Bose-Einstein  
condensate created at Aalto University  
Bose-Einstein condensation **Bose-Einstein**  
**condensation of organic exciton-polaritons** |  
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Ideal Bose gas: Bose-Einstein Condensation  
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The Coldest Place in the Universe What are the 5 States of Matter? Axel Pelster, "Dipolar Bose-Einstein condensates with weak disorder" Bose-Einstein condensate Tamil fifth state of matter Tamil The Bose Einstein Condensate Explained 5th state of matter (Bose Einstein Condensate): How a humble letter changed the World! **Bose - Einstein Condensation and Degeneracy (Lecture -1, Bose Einstein Statistics - Lecture Series)** ~~Bose Einstein Condensate? (Science question)~~ *Bose Einstein Condensation #Physical Interpretation? How does BEC occur? Must watch for PhD interviews* Applying Bose-Einstein

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condensation to quantum information BYRNES

Tim [Bose Einstein Condensation Of Erbium](#)

arXiv:1204.1725v2 [cond-mat.quant-gas] 21 May

2012 Bose-Einstein Condensation of Erbium K.

Aikawa,<sup>1</sup> A. Frisch,<sup>1</sup> M. Mark,<sup>1</sup> S. Baier,<sup>1</sup> A.

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[Bose-Einstein Condensation of Erbium - arXiv](#)

Bose-Einstein condensation of erbium atoms

and on the observation of Feshbach resonances

in the region of low magnetic fields. We

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obtain pure optically trapped BECs of  $^{168}\text{Er}$  containing  $7 \times 10^4$  atoms. The remarkably high efficiency of evaporative cooling in a standard optical dipole trap indicates favorable scattering properties of the

## Bose-Einstein Condensation of Erbium

Abstract We report on the achievement of Bose-Einstein condensation of erbium atoms and on the observation of magnetic Feshbach resonances at low magnetic fields. By means of evaporative cooling in...

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We report on the achievement of Bose-Einstein condensation of erbium atoms and on the observation of magnetic Feshbach resonances at low magnetic field. By means of evaporative cooling in an optical dipole trap, we produce pure condensates of  $^{168}\text{Er}$ , containing up to  $7 \times 10^4$  atoms. Feshbach spectroscopy reveals an extraordinary rich loss spectrum with six loss resonances already in a narrow ...

[Bose-Einstein Condensation of Erbium - arXiv Vanity](#)

We report on the achievement of Bose-Einstein

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condensation of erbium atoms and on the observation of magnetic Feshbach resonances at low magnetic fields. By means of evaporative cooling in an optical dipole trap, we produce pure condensates of  $^{168}\text{Er}$ , containing up to  $7 \times 10^4$  atoms. Feshbach spectroscopy reveals an extraordinary rich loss ...

## Bose-Einstein Condensation of Erbium

ERBIUM NEWS. We report on the achievement of Bose-Einstein condensation of erbium atoms and on the observation of magnetic Feshbach



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resonances at low magnetic fields. By means of evaporative cooling in an optical dipole trap, we produce pure condensates of Er168, containing up to  $7 \times 10^4$  atoms.

## Bose-Einstein Condensation of Erbium - Dipolar Quantum Gases

At temperatures close to absolute zero, a cloud of about 70,000 erbium atoms forms a magnetic Bose-Einstein condensate. In a condensate, the particles lose their individual properties and...

## First Bose-Einstein condensate of erbium

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produced

We report on the achievement of Bose-Einstein condensation of erbium atoms and on the observation of magnetic Feshbach resonances at low magnetic field. By means of evaporative cooling in an optical dipole trap, we produce pure condensates of  $^{168}\text{Er}$ , containing up to  $7 \times 10^4$  atoms. Feshbach spectroscopy reveals an extraordinary rich loss spectrum with six loss resonances already in a narrow magnetic-field range up to 3 G.

[1204.1725] Bose-Einstein Condensation of

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## Erbium

Bose-Einstein Condensation of Erbium.

17/01/2018 31/01/2016 by Philipp Ilzhöfer. We have reported on the achievement of Bose-Einstein condensation of erbium atoms and on the observation of magnetic Feshbach resonances at low magnetic fields. Categories ERBIUM NEWS, ErbiumSlideshow Post navigation.

## Bose-Einstein Condensation of Erbium - Dipolar Quantum Gases

At temperatures close to absolute zero, a cloud of about 70,000 erbium atoms forms a magnetic Bose-Einstein condensate. In a

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condensate, the particles lose their individual properties and synchronize their behavior.

## First Bose-Einstein condensate of erbium produced ...

- Bose condensation is an example of a quantum phase transition i.e. phase transitions are often generated by certain interactions becoming important, but here there are no interactions! Instead the transition is a result of indistinguishability at the quantum level. Bose condensation is at first unintuitive to

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most physicists.

## Statistical Physics Section 5: Bose-Einstein Condensation

zero, a cloud of about 70,000 erbium atoms forms a magnetic Bose-Einstein condensate. In a condensate, the particles lose their individual properties and synchronize their behavior.

## First Bose-Einstein condensate of erbium produced

He Bose-Einstein condensate it is a state of matter that occurs in certain particles at

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temperatures close to absolute zero. For a long time it was thought that the three possible states of aggregation of matter were solid, liquid and gas. Then the fourth state was discovered: plasma; and the Bose-Einstein condensate is considered the fifth state.

## Bose-Einstein Condensate: Properties, Applications | Life ...

In condensed matter physics, a Bose-Einstein condensate (BEC) is a state of matter (also called the fifth state of matter) which is typically formed when a gas of bosons at low densities is cooled to temperatures very close

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to absolute zero ( $-273.15\text{ }^{\circ}\text{C}$ ,  $-459.67\text{ }^{\circ}\text{F}$ ).

## Bose-Einstein condensate - Wikipedia

There are few experiments worldwide that investigate quantum gases of rare earth elements. In recent work, we have observed Bose-Einstein condensation of erbium atoms in a quasi-electrostatic optical dipole trap, based on the far off-resonant light of a CO<sub>2</sub>-laser operating near 10.6  $\mu\text{m}$  wavelength. At present, the experimental setup is extended so that synthetic magnetic fields for erbium atoms can be generated by means of a Raman coupling.

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## Erbium Bose-Einstein-Condensate – IAP

We report on the achievement of Bose-Einstein condensation of erbium atoms and on the observation of magnetic Feshbach resonances at low magnetic field. By means of evaporative cooling in an optical dipole trap, we produce pure condensates of  $^{168}\text{Er}$ , containing up to  $7 \times 10^4$  atoms.

## Bose-Einstein Condensation of Erbium – CORE

Exploring Bose-Einstein Condensate And Superfluids : Short Wave Sharpen your



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pencils. Get out your notebook. Today, we are unveiling a new series called "Back To School." In these episodes, we ...

## Exploring Bose-Einstein Condensate And Superfluids : Short ...

Bose condensation is most directly observed in the single particle atomic momentum distribution, where the Bose condensate appears as a delta function singularity. In this article, we discuss the experimental techniques used to observe the condensate and the current status of measurements of the Bose condensate in liquid helium. Introduction

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