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The coolest use of light - how to make and study the coldest matter in the universe

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Abstract

Light has many important properties and applications. I will explain that light exerts forces on particles and objects. These forces deflect the tails of comets, they are used in the form of optical tweezers to manipulate cells and DNA in biological samples, and they allow the trapping of atoms. Laser light can cool matter to temperatures close to absolute zero and was used to study the phenomenon of superfluidity.