ICFO in Catalonia Today

The article features the research carried out by Prof. Eschner?s group in their crusade for harvesting the infinitesimal.

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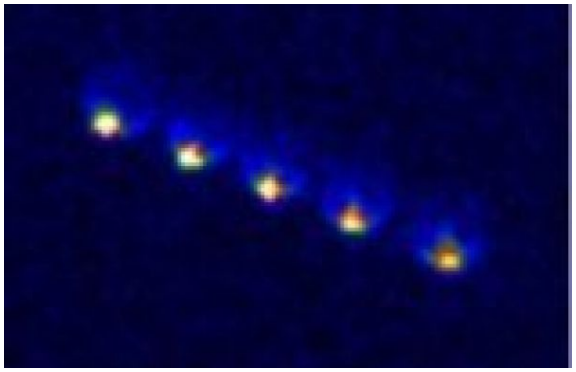
Catalonia Today features this week the outstanding results by Prof. Eschner?s group. The experimentalists in the single-atoms group at ICFO have successfully trapped the first ion in Spain.

The team, which includes Felix Rohde, Carsten Schuck, Markus Hennrich, Roger Gehr and Marc Almendros, succeeded in trapping a single ion (an ion is an atom with a positive or negative charge). The trap uses electric fields and lasers to isolate and control an ion or a small string of ions in a vacuum chamber. This feat has been performed in a couple of dozen labs around the world, but it represents an original achievement in the panorama of Spanish science.

The article highlights the importance of this result. Prof. Eschner and the team explained during the interview at ICFO?s labs how the next step for the experiment is now to trap another ion in a second trap at a 1 meter distance from the first one, and how the group will attempt to entangle the two ions. The result could lead to applications such as teleportation. In Prof. Eschner?s words "teleportation of an ion's quantum state would enable the construction of quantum information networks necessary to develop quantum computing systems".

The hunt is on to be the first team in the world to actually teleport ions over distances.



Cold chain of 5 ions

Prof. Jürgen Eschner's group