Shaking a Condensate in an Optical Lattice

Physics reports on an article co-authored by ICFO postdoctoral researcher Andre Eckardt.

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Putting a Bose-Einstein condensate in a shaken optical lattice gives access to a new form of quantum state engineering, namely to modify the Bloch bands of the atoms in a controllable way. This is the subject of the paper "Exploring dynamic localization with a Bose-Einstein condensate" published in Physical Review A and co-authored by Andre Eckardt, postdoctoral researcher in Prof. Maciej Lewenstein?s group, and researchers at the Carl von Ossietzky Universitat in Oldenburg (Germany) and the Universita di Pisa (Italy). The result has been highlighted in the APS online magazine Physics.