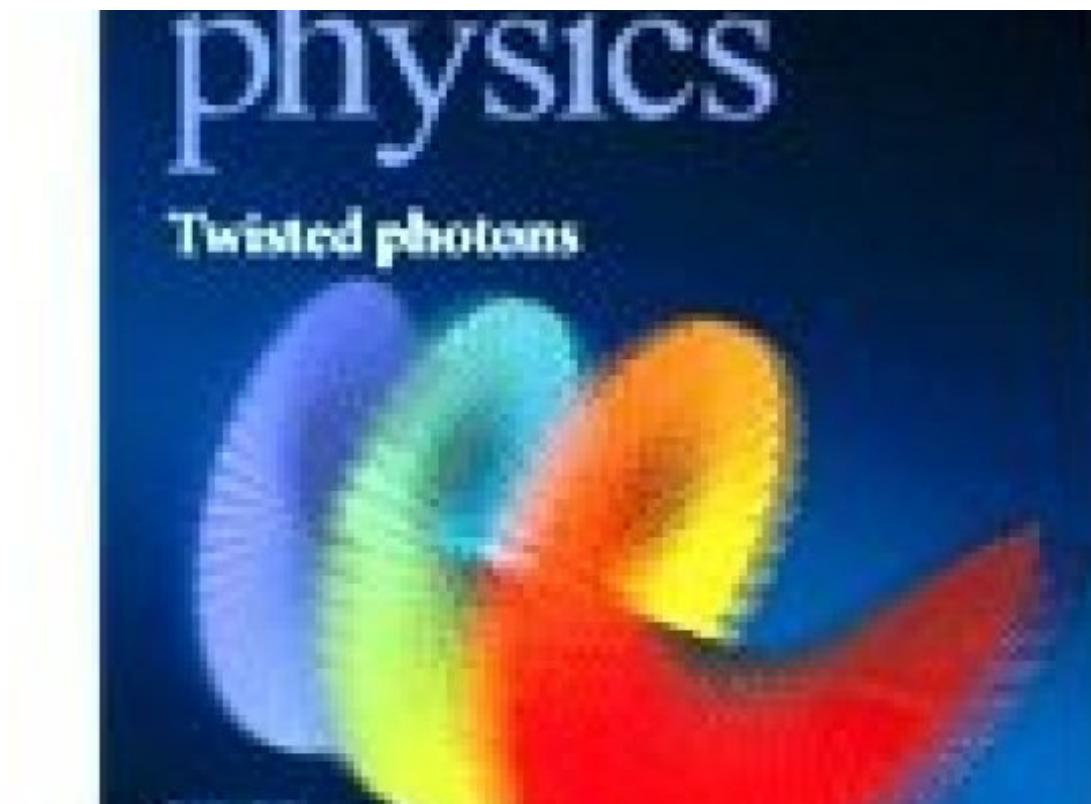




Twisted photons in Nature Physics

An ICFO Progress Article reviews the landmark advances in the study of the orbital angular momentum of light

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ICFO researchers, Dr Gabriel Molina, Prof. Juan P. Torres, and Prof. Lluís Torner, contribute a Progress Article to Nature Physics that reviews the progress in the generation, understanding and use of the orbital angular momentum of light.

The quantum orbital angular momentum of light represents a fundamentally new optical degree of freedom. Unlike linear momentum, or spin angular momentum, which is associated with the polarization of light, orbital angular momentum arises as a subtler and more complex consequence of the spatial distribution of the intensity and phase of an optical field - even down to the single photon limit. Consequently, researchers have only begun to appreciate its implications for our understanding of the many ways in which light and matter can interact, or its practical potential for quantum information applications.

Their work is also front-page and cover story of the May 2007 issue of Nature Physics.