



Magnetic Light

Researchers at Brown and the group led by Niek van Hulst report in *Nature Comm.* on magnetic components in light-matter interactions.

July 31, 2012

Former ICFOnian Dr. Tim Taminiau and Dr. Sinan Karavelli, both at Brown University (USA), have recently reported in *Nature Communications* about the magnetic nature of light emission. The results introduce a new tool: an atomic scale system that interacts with the magnetic component of light.

Light-matter interactions are generally dominated by electric fields and electric dipole transitions. In this study, however, the authors manage to quantify magnetic contributions to light emission, and exploit the strong natural magnetic dipole transitions in lanthanide ions to measure optical-frequency magnetic fields.

The paper **Quantifying the magnetic nature of light emission** has been published in *Nature Communications* on July 31 by Dr. Tim Taminiau, Dr. Sinan Karaveli, ICREA Prof. Niek van Hulst, leader at ICFO of the Molecular NanoPhotonics group, and Prof. Rashid Zia, leader of the Laboratory of Sub-wavelength Optics at Brown University.