



## ICFO's optical tweezers in El PAIS

The newspaper El Pais features research on a new technique to detect molecule-scale torque carried out at ICFO

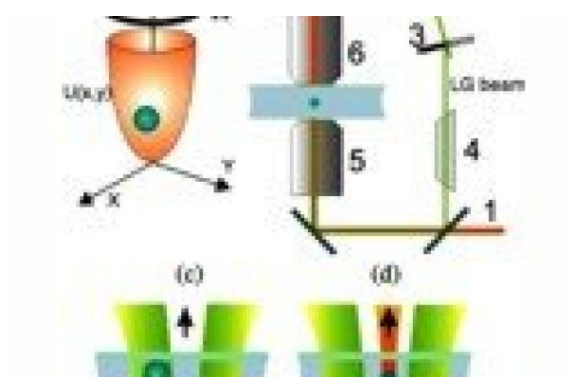
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The newspaper El Pais has featured a research carried out by ICFO researchers, [Giovanni Volpe](#) and [Prof. Dmitri Petrov](#), about a new technique to measure torque using statistical methods similar to what researchers use for linear force measurements. Compared to other measurements, this method achieves ten times higher torque sensitivity and it could be applied to proteins, DNA, or even synthetic nanomotors developed for futuristic devices.

To test their method, Petrov and Volpe trapped a 1-micron-wide polystyrene bead with a red laser beam and at the same time nudged it with a green laser. Only when the researchers calculated the correlation functions were they able to measure a miniscule torque of  $4 \times 10^{-21}$  newton-meters, which matched their predictions and was ten times smaller than the smallest

torque measured before.



Mr Jordi Funollet (left) and Mrs Aida Diaz (right)