

Quantum information & foundations

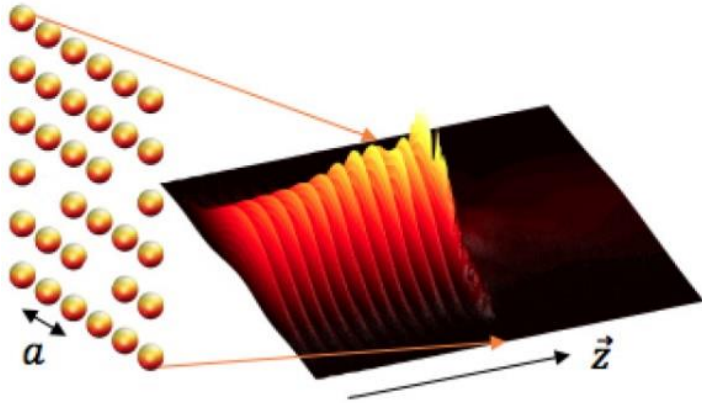
Quantum control for quantum technologies and the study of gravity

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Quantum Control of Light and Matter

*Quantum phenomena enable entirely new applications. We study capabilities of quantum devices and new techniques for **manipulating quantum systems**.*



*Physical Review D (2016),
Nature Physics (2020)*

Macroscopic Entanglement

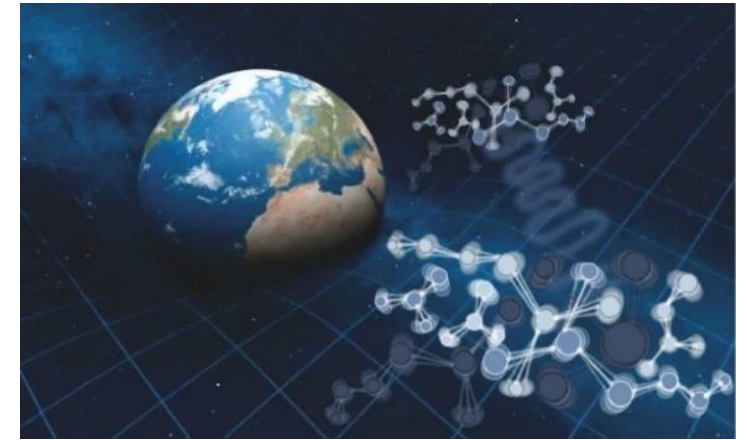
*Does quantum theory have limits?
Our research shows how to reveal **quantum effects on macro-scales**.*



*Nature Physics (2012),
New Journal of Physics (2020)*

Gravity and Quantum Interface

*How does gravity affect quantum behavior?
We show how to use quantum technologies to **probe quantum gravity and curved space-time**.*



*Nature Physics (2015),
Nature Communications (2019)*