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## Testing Gravity and quantum mechanics

*Tuesday, 9 July 2024 11:30 (30 minutes)*

General Relativity and quantum mechanics are both universally applicable theories and are most important for our present understanding of matter, space and time. Clearly, both theories have to be tested as good as possible. In this talk an overview is given of recent tests of both theories like the Equivalence Principle, equivalence of active and passive gravitational mass, the redshift, the linearity of quantum mechanics, Bell inequality. Due to a lack of the combined understanding of General Relativity and quantum mechanics we lay emphasis on quantum tests exploring the structure of space-time and of the gravitational interaction. This concerns tests using clocks, atoms and photons and also includes many particle systems and entanglement.

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