

Plenarvortrag PV II Di 11:45 – 30.95: 001
Testing principles of General Relativity with an eye towards Quantum Gravity — ●DOMENICO GIULINI — Zentrum fuer angewandte Raumfahrttechnologie und Mikrogravitation (ZARM), Universität Bremen — Institut fuer Theoretische Physik, Leibniz Universität Hannover

The principles on which Quantum(Field)Theory and General Relativity rest are mutually incompatible. Various Quantum Gravity pro-

grams attempt to find a single consistent structure from which both previous ones can be retrieved in appropriate limits. Expectations diverge as to which of the old principles, if any, may survive this transition in some recognisable form. Here guidance from observations should be sought, though this is clearly highly demanding. I will discuss attempts and ideas to test some of the cherished principles of General Relativity, like in existing and proposed high precision quantum tests of the equivalence principle.