

GR 18: Fundamental problems and general formalism

Time: Wednesday 17:30–18:10

Location: SPA SR220

GR 18.1 Wed 17:30 SPA SR220

Probing the gravitational field with test bodies — ●DIRK PUETZFELD — ZARM, U Bremen, Germany

We discuss some techniques for the detection of the gravitational field by means of test bodies. In particular we highlight how measurement methods depend on assumptions made within the underlying relativistic approximation schemes.

GR 18.2 Wed 17:50 SPA SR220

On Dirac's covariant quantization of non-linear electrody-**namics** — ●RICO BERNER, HORST-HEINO VON BORZESZKOWSKI, and THORALF CHROBOK — Technische Universität Berlin, Berlin, Germany

This talk's aim is to give an alternative view on the quantization procedure of *Dirac's* paper (Proc. R. Soc. Lond. A 1960 257, 23–43) concerning the Born-Infeld electrodynamics. An extension of *Dirac's* approach is introduced for the determination of the constraints of non-linear electrodynamics. Furthermore, the application of the extended approach to various theories is presented and compared to the results of Dirac, especially with regard to the theory of Born and Infeld.