



# Institutskolloquium

Am Mittwoch, **19. Mai 2004 um 16:00 Uhr** spricht:

**Prof. Howard R. Reiss**  
**Max-Born-Institut, Berlin, Germany and**  
**American University, Washington, DC, USA**

über

## „Relativistic Strong-Field Phenomena“

An electron in an extremely intense field has its properties dominated more by the laser field it experiences than by any bound system that gave rise to the electron. Laser photons are fundamentally relativistic, so the electron's behaviour must also be relativistic. Many explicitly intense-field phenomena now being explored were studied in a relativistic context during a theoretician's golden age about forty years ago, before the lasers to produce such fields existed. The phenomena since revisited include electron mass shifts, strong-field pair creation, relativistic tunnelling, stabilization, excess-photon processes, and so on. After a brief historical survey of specific strong-field effects, many from a different point of view than the current one, some new insights are provided.

Ort: Max-Born-Saal, MBI, Max-Born-Str. 2a

Interessenten sind herzlich eingeladen.

Prof. Dr. W. Sandner