

# DIESE WOCH

## PHYSIKALISCHES KOLLOQUIUM

des Fachbereichs Physik  
der Johann Wolfgang Goethe-Universität Frankfurt

Mittwoch, den 17.04.2013, 16 Uhr c.t.  
Großer Hörsaal, Raum \_0.111,  
Max-von-Laue-Str. 1

**Prof. Dr. Alexander Pukhov**

Institut für Theoretische Physik, Universität Düsseldorf

*„Laser-plasma particle acceleration and sources  
of short wavelength radiation“*

The major regimes of plasma-based particle acceleration and novel sources of radiation will be discussed. The ion acceleration occurs either via the TNSA (Target Normal Sheath Acceleration), or directly by the light pressure of the intense laser pulse (light sail acceleration). Electrons can be accelerated in laser-driven plasma wake fields. The so called bubble regime, the most successful regime of high amplitude relativistic wake, is stable, scalable and naturally produces quasi-monoenergetic electron bunches. The laser accelerated 100 MeV – 10 GeV electrons emit synchrotron-like radiation with photon energy in a range from a few keV to MeV.

As the laser technology continues its spectacular development, ever higher field intensities and power levels become accessible in laboratories. The projects ELI, IZEST and ICAN open new horizons for laser applications in high energy and fundamental physics.

Die Dozenten der Physik

# Kolloquium

<http://www.uni-frankfurt.de/fb/fb13/Termine/index.html>