



Institutskolloquium

am Mittwoch, **20. Oktober 2004 um 16:00 Uhr** spricht:

Prof. Dr. W. P. Schleich

Abt. für Quantenphysik, Universität Ulm

über

“Wave packet dynamics, quantum carpets, and factorization of numbers”

We connect three phenomena of wave packet dynamics: Talbot images, revivals of a particle in a box, and fractional revivals. The physical origin of these effects is deeply rooted in phase factors which are quadratic in a quantum number. We show that the characteristic structures and the time evolution of these systems allow us to factorize large integers. One possible realisation of this scheme is to use chirped pulses in ionisation of atoms and molecules. We also discuss the influence of entanglement in these approaches.

This colloquium contains a lot of historical remarks, beautiful pictures, but has also some interesting number theory, and quantum physics. It combines various fields of wave packet dynamics in molecules and atoms, atom optics, number theory and quantum information.

Ort: Seminarraum 2.6, Geb. B
MBI, Max-Born-Str. 2a

Interessenten sind herzlich eingeladen.

Prof. Dr. W. Sandner