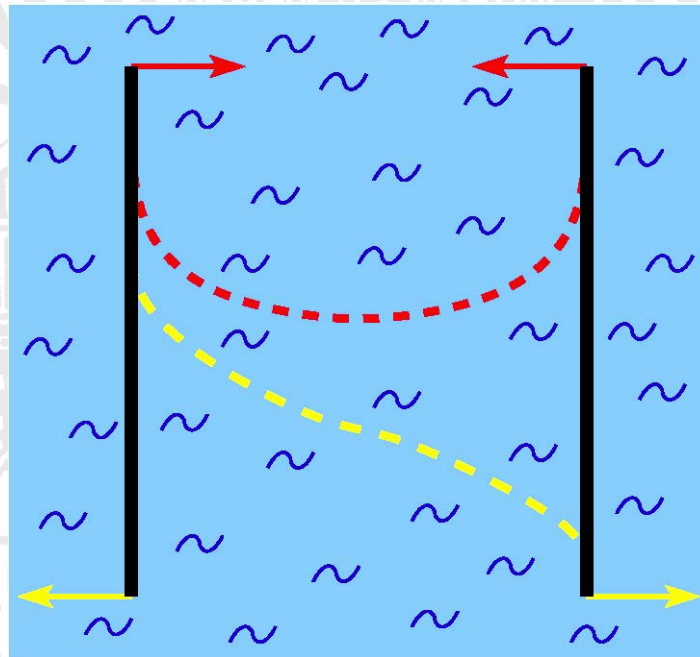




PHYSIKALISCHES KOLLOQUIUM

AM 24. JUNI 2019 UM 17 UHR C.T.

IM GROßEN HÖRSAAL



CRITICAL CASIMIR FORCES

PROF. DR. SIEGFRIED DIETRICH

MAX-PLANCK-INSTITUT FÜR INTELLIGENTE SYSTEME

UND INSTITUT FÜR THEORETISCHE PHYSIK IV,

UNIVERSITÄT STUTTGART

Long-ranged correlations in a fluid near its critical point lead to clearly identifiable effective forces acting on confining walls. The corresponding universal scaling functions are discussed for various boundary conditions and geometries. The theoretical predictions are compared with high precision experimental data for He^4 and He^3/He^4 wetting films near the superfluid phase transition as well as with synchrotron scattering data from classical binary liquid mixtures. Direct measurements and applications for colloidal suspensions are discussed.