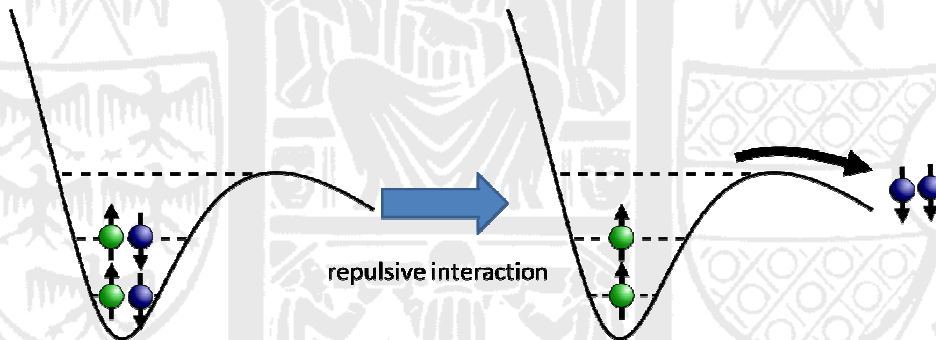
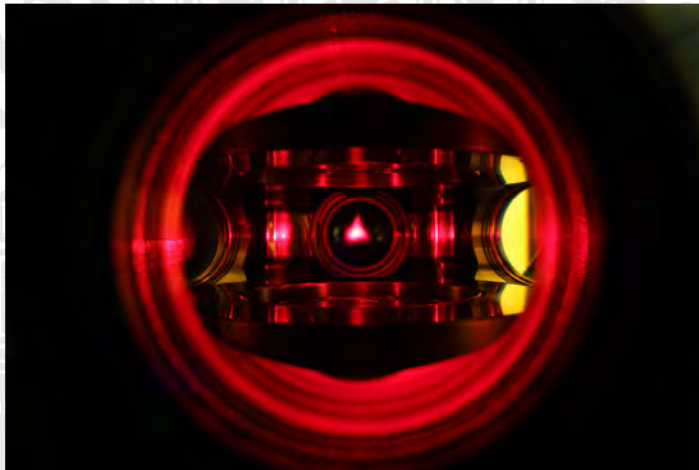


# PHYSIKALISCHES KOLLOQUIUM

AM 30. APRIL 2012 UM 17 UHR C.T.

IM GROßEN HÖRSAAL



## TUNABLE, DETERMINISTIC FEW-FERMION QUANTUM SYSTEMS

PROF. DR. SELIM JOCHIM

*PHYSIKALISCHES INSTITUT, UNIVERSITÄT HEIDELBERG*

Ultracold atoms with their simple and tunable interactions have in the past been a wonderful playground to realize a broad range of many body systems, such as Bose-Einstein condensation or strongly interacting Fermi gases. In our recent work, we have obtained control over ensembles of ultracold atoms at the single particle level. In fact, it has become possible to control all degrees of freedom of systems containing up to ten particles, thereby realizing almost ideal model systems for few body physics. These systems can now be regarded as a new kind of universal "designer atom", complementing research on atomic clusters and quantum dots.