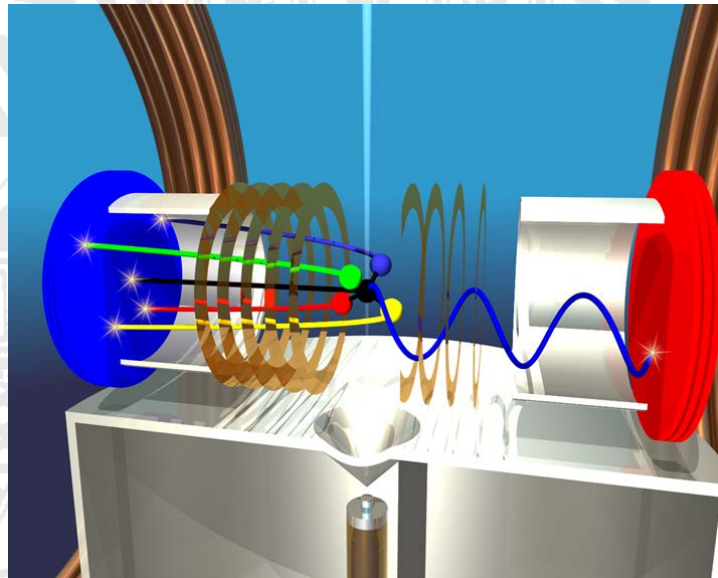


PHYSIKALISCHES KOLLOQUIUM

AM 23. MAI 2016 UM 17 UHR C.T.

IM GROßEN HÖRSAAL



IMAGING WAVE FUNCTION OF FEW BODY SYSTEMS: HE DIMERS, TRIMERS AND THE EFIMOV STATE OF He_3

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Two and three helium atoms form very unusual and extreme quantum systems. Their typical extent is ten to hundred times bigger than the radius of the atoms, the wave function lives almost completely in the classically forbidden tunneling region and the binding energy of these systems is about 8 orders of magnitude smaller than that of a normal molecule.

We will show how coincidence detection of charged fragments and super strong laser fields can be used to image the wave functions of these helium quantum giants and will show the first experimental images of an Efimov state.