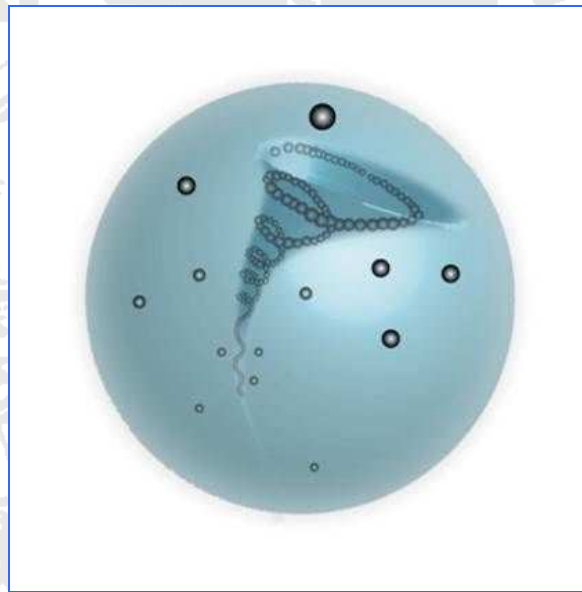


PHYSIKALISCHES KOLLOQUIUM

AM 13. MAI 2013 UM 17 UHR C.T.

IM GROßEN HÖRSAAL



VORTICITY AND SHAPES OF SPINNING SUPERFLUID HELIUM DROPLETS

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In this talk observations of vortices in superfluid helium droplets having diameters of 100-1000 nm will be discussed. The talk will start with a short review of the basics of vorticity and previous theoretical works on vortices in helium droplets. Then the results of surface deposition experiments will be discussed, which show vortex-catalyzed formation of elongated silver aggregates in He droplets. Finally, the results of very recent collaborative experiments on X-ray diffraction imaging of the droplets at the free electron laser LCLS in Stanford will be introduced. These indicate formation of Abrikosov vortex arrays as well as substantial shape deformations in the rotating superfluid droplets.