

Seminar: Hard Condensed Matter Theory

Room: Jairo's office, 01-327 (Staudinger Weg 7)

Time: Thursday, 12.01.2017, 13:30

Thorge Müller

Heidelberg

Kolmogorov-type scaling at a non-thermal fixed point in two dimensional Bose gases

I present a numerical analysis of non-thermal fixed points in ultracold Bose gases in two spatial dimensions. Imprinting of multiply quantized vortices is used to drive the system far away from equilibrium.

I demonstrate that the ensuing dynamical evolution leads the system towards a quasi-stationary state showing non-thermal scaling solutions in the occupation number, known as non-thermal fixed points.

I provide numerical evidence that the employed driving scheme realizes a new scaling solution in the infrared, $n(k) \sim k^{-5}$.

This result has been predicted by analytical calculations, however it has not been observed numerically up to now.

All interested are cordially welcome!

K. Everschor-Sitte, Email: kaeversc@uni-mainz.de