

Joint CQSE and CASTS Seminar

2018
Oct. 12, Friday

TIME Oct. 12, 2018, 14:30 ~ 15:30
TITLE Quantum criticality under the influence of magnetic fields
SPEAKER Dr. Adam Iaizzi
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PLACE Rm716, CCMS & New Physics Building, NTU

Abstract

Simple models of interacting quantum spins are a remarkable tools for studying quantum phase transitions and many-body states with strong quantum fluctuations, but relatively few studies have considered how external magnetic fields effect these systems. I investigate the influence of magnetic fields on a number of quantum critical points in a low-dimensional quantum antiferromagnet known as the J-Q model. Near saturation we observe a change from zero-scale-factor universality to metamagnetism as Q is increased. Separately, we investigate the effects of magnetic fields near the so-called deconfined quantum critical point where we show direct evidence of Bose-Einstein condensation of deconfined spinons ($S=1/2$ bosons).

