Seminar/Talk

Semi-classical limit of large fermionic systems at positive temperature

Arnaud Triay

(Universite Paris-Dauphine)

Host: Robert Seiringer

We study a system of N interacting fermions at positive temperature in a confining potential. In the regime where the intensity of the interaction scales as 1/N and with an effective semi-classical parameter $h = N^{-1/d}$ where d is the space dimension, we prove the convergence to the corresponding Thomas-Fermi model at positive temperature. In the derivation of the latter arises the fermionic entropy $s(x) = x \log x + (1-x) \log(1-x)$. We also treat the dilute case, when the two body interaction potential is scaled like $N^{d \eta} w(N^{\eta} x)$.(Joint work with M. Lewin and P. Madsen)

Thursday, March 21, 2019 04:00pm - 06:00pm

Big Seminar room Ground floor / Office Bldg West (I21.EG.101)

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