

abstract

MATHEMATICAL PHYSICS SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

We consider a gas of fermions with non-zero spin at positive temperature T . We show that if the range of the interparticle interaction is small compared to the mean particle distance, the thermodynamic pressure differs to leading order from the corresponding expression for non-interacting particles by a term proportional to the scattering length of the interparticle interaction. This is true for any repulsive interaction, including hard cores. The result is uniform in the temperature as long as T is of the same order as the Fermi temperature, or smaller. One of the key ingredients in the proof is a new subadditivity inequality for the von-Neumann entropy.