

BENEMÉRITA UNIVERSIDAD AUTÓNOMA DE PUEBLA



INSTITUTO DE FÍSICA
“Luis Rivera Terrazas”



SEMINARIO EXTRAORDINARIO
“DR. JESUS REYES CORONA”

“Excited and Mixed states with Tensor Networks”

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Tensor network methods (most notably Density Matrix Renormalization Group and Matrix Product States) are widely used to simulate quantum many body systems, especially at zero temperature where the ground state is weakly entangled and can be represented by products of small dimensional tensors. The same is true for low energy excited states where elementary excitations only increase the entanglement for a constant value and can thus also be represented by tensor networks. Mixed states, on the other hand, are determined not by pure states but rather by density matrices. We will demonstrate the power of tensor networks to calculate the Drude weight for the Heisenberg XXZ model at a finite temperature, by representing the density matrices and Heisenberg operators as tensor networks in the operator space.

Auditorio-IFUAP

Viernes 17 de Agosto de 2012

17:00 Hrs.