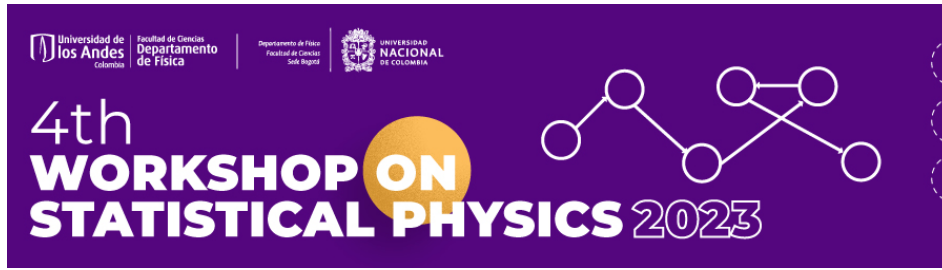


4th Workshop on Statistical Physics



Contribution ID: 33

Tipo: **Oral**

Analysis of phase transition in a CrI₃ monolayer using the Ising model in a hexagonal lattice

viernes, 6 de octubre de 2023 10:50 (20 minutos)

In this work, the ferromagnetic phase transition in a monolayer of chromium triiodide (CrI₃) was examined. Employing a microcanonical ensemble approach, entropy was evaluated as a function of internal energy and magnetization was calculated with respect to energy across various spin configurations. In this way, a methodology was found to observe phase transitions using thermodynamic quantities other than specific heat. The Hubbard model was used to characterize the exchange interactions, defined by a first-neighbor exchange energy of $J=2.37$ meV.

Autores primarios: Mr GARAVITO BARRAGÁN, José David (Universidad Industrial de Santander); Mrs PÉREZ ROJAS, Nathalia Alexandra (Universidad Industrial de Santander)

Coautores: Mr BARAJAS OCHOA, Brayan Rodolfo (Universidad Industrial de Santander); Dr PÁEZ GONZÁLEZ, Carlos José (Universidad Industrial de Santander)

Presentadores: Mr GARAVITO BARRAGÁN, José David (Universidad Industrial de Santander); Mrs PÉREZ ROJAS, Nathalia Alexandra (Universidad Industrial de Santander)

Session Classification: Contributed talks

Track Classification: Statistical Physics