

Abstract Submitted  
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**Molecular Dynamics Simulation of a Two Dimensional Heisenberg Fluid**<sup>1</sup> B.V. COSTA, Universidade Federal de Minas Gerais, A.B. LIMA, E. CORREA, Universidade Federal do Triângulo Mineiro — In this work we use numerical Monte Carlo and Molecular Dynamics to study a classical two-dimensional compressible magnetic fluid. The magnetic interactions are realized through a Yukawa-like potential while particles interact through Lenard-Jones forces. Our preliminary results point to a very rich phase transition picture. At high density the system seems to undergo a magnetic transition, as suggested by the magnetization and susceptibility results.

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