

Abstract Submitted  
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**TSP Thermodynamic Properties**<sup>1</sup> FELIX MARIN, Laboratorio de Fisica Teorica de Solidos. Centro de Fisica Teorica y Computacional. Facultad de Ciencias. Universidad Central de Venezuela — We investigate the thermodynamic properties of the traveling salesman problem (TSP). This research is widely based in a statistical mechanics analogy which we introduced a few years ago. Indeed, we introduced an order parameter for the TSP which is a discrete version of the angular momentum of a fictitious particle moving along the TSP configurations. Following the analogy mentioned above and the new order parameter behavior we define specific heat and susceptibility for the TSP. These are evaluated along a simulated annealing and show peaks around the transition temperature associated to the TSP order parameter.

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