

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

TSP Thermodynamic Properties¹ 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.

¹Supported by OPSU-MES and CDCH-UCV (Venezuela)

Felix Marin
Universidad Central de Venezuela

Date submitted: 29 Dec 2006

Electronic form version 1.4