



**AN ELECTRONIC ALGORITHM TO FIND THE OPTIMAL
SOLUTION FOR THE TRAVELLING
SALESMAN PROBLEM**

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Received July 24, 2016

Abstract

I give here an electronic algorithm of the order $\mathcal{O}(n^3)$ which is a generalization of the atomic algorithm found in [M. Sghiar, Atomic algorithm and the servers's use to find the hamiltonian cycles, International Journal of Engineering Research and Applications (IJERA) 6(6) (2016), 23-30] and allows us to find the optimal Hamiltonian cycles.

If the atomic algorithm (see [M. Sghiar, Atomic algorithm and the servers's use to find the hamiltonian cycles, International Journal of Engineering Research and Applications (IJERA) 6(6) (2016), 23-30] and [M. Sghiar, Algorithmes quantiques, cycles hamiltoniens et la k-coloration des graphes, Pioneer J. Math. Math. Sci. 17(1) (2016), 51-69]) was inspired by the movement of the particles in the atom, the electronic algorithm is inspired by the resistor in the electrical circuit.

Keywords and phrases: graph, Hamilton cycles, $P = NP$, the travelling salesman problem, TSP.

