

1086-05-2452      **Suil O\*** (so@wm.edu), Department of Mathematics, College of William and Mary, Williamsburg, VA 23185, and **Douglas B West**. *The Chinese Postman Problem in regular graphs of odd degree*. Preliminary report.

The Chinese Postman Problem in a multigraph is the problem of finding a shortest closed walk traversing all the edges. In a  $(2r + 1)$ -regular graph, the problem is equivalent to finding a smallest spanning subgraph in which all vertices have odd degree. In 1994, Kotstochka and Tulai established a sharp upper bound for the solution. For a 3-regular (multi-) graph with  $n$  vertices, we give a simple proof of the bound. We characterize the graphs where equality holds. (Received September 25, 2012)