ON THE HAMILTONIAN NUMBER OF A PLANE GRAPH

THOMAS M. LEWIS

Department of Mathematics
Furman University
Greenville, SC 29613, USA

e-mail: tom.lewis@furman.edu

Abstract

The Hamiltonian number of a connected graph is the minimum of the lengths of the closed spanning walks in the graph. In 1968, Grinberg published a necessary condition for the existence of a Hamiltonian cycle in a plane graph, formulated in terms of the degrees of its faces. We show how Grinberg’s theorem can be adapted to provide a lower bound on the Hamiltonian number of a plane graph.

Keywords: Hamiltonian cycle, Hamiltonian walk, Hamiltonian number, Hamiltonian spectrum, Grinberg’s theorem, planar graph.

2010 Mathematics Subject Classification: 05C10.

REFERENCES


