Combinatorics Seminar

Friday, April 29, 2005

3:00 pm in Hume 331

(Refreshment will be served at 2:30pm in Hume 307)

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Every 6-connected line graph is hamiltonian

ABSTRACT

Thomassen [J. Graph Theory, 10 (1986) 309-324] conjectured that every 4-connected line graph is hamiltonian. Zhan in [Discrete Math., 89 (1991) 89-95] proved that every 7-connected line graph is hamiltonian connected. In this paper, we prove that every 3-edge-connected graph G has a cycle (edge-disjoint union of circuits) C with the property that for every cocircuit D of G with $|D| \geq 6$, $C \cap D \neq \emptyset$. Consequently, every 6-connected line graph is hamiltonian.