

# On edges enforcing a hamiltonian cycle

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A nonempty edge set  $X' \subseteq E(G)$  of a hamiltonian graph  $G$  is called hamiltonian force (*H-force*) set of  $G$  if  $X'$ -cycle (i.e. a cycle of  $G$  containing all edges of  $X'$ ) exists and every  $X'$ -cycle is hamiltonian. The *edge H-force number*  $h'(G)$  of a graph  $G$  is defined to be the smallest cardinality of an edge H-force set of  $G$ . This conception is motivated by [2], in which we can find research about vertex H-force number.

In this talk we present some interesting and surprising results about parameter  $h'(G)$  and its behaviour after adding edges to hamiltonian graph. Also we give lower and upper bound of  $h'(G)$ .

## REFERENCES

- [1] M. Derňár, Edges enforcing a hamiltonian cycle, Diploma thesis, P. J. Šafárik University, 2012 (in Slovak).
- [2] I. Fabrici, E. Hexel, S. Jendroľ, On vertices enforcing a hamiltonian cycle, Discuss. Math. Graph Theory 33 (2013), 71–89.