

# **Powers of Hamilton cycles in randomly augmented Dirac graphs**

*Sylwia Antoniuk*

We study the powers of Hamiltonian cycles in randomly augmented Dirac graphs, that is,  $n$ -vertex graphs  $G$  with minimum degree at least  $(1/2 + \epsilon)n$  for some  $\epsilon > 0$ . For any such graph and every integer  $m \geq 2$ , we very accurately estimate the threshold probability  $p = p(n)$  for the event that the random augmentation  $G \cup G(n, p)$  contains the  $m$ -th power of a Hamiltonian cycle.