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## On the Edge-forwarding Indices of Frobenius Graphs

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摘要

关键词 [Frobenius graph](#) [networks](#) [edge-forwarding index](#)

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## On the Edge-forwarding Indices of Frobenius Graphs

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**Abstract** A  $G$ -Frobenius graph  $\Gamma$ , as defined by Fang, Li, and Praeger, is a connected orbital graph of a Frobenius group  $G=K \rtimes H$  with Frobenius kernel  $K$  and Frobenius complement  $H$ .  $\Gamma$  is also shown to be a Cayley graph,  $\Gamma = \text{Cay}(K, S)$  for  $K$  and some subset  $S$  of the group  $K$ . On the other hand, a network  $N$  with a routing function  $R$ , written as  $(N, R)$ , is an undirected graph  $N$  together with a routing  $R$  which consists of a collection of simple paths connecting every pair of vertices in the graph. The edge-forwarding index  $\pi(N)$  of a network  $(N, R)$ , defined by Heydemann, Meyer, and Sotteau, is a parameter to describe the maximum load of edges of  $N$ . In this paper, we study the edge-forwarding indices of Frobenius graphs. In particular, we obtain the edge-forwarding index of a  $G$ -Frobenius graph  $\Gamma$  with  $\text{rank}(G) \leq 50$ .

**Key words** [Frobenius graph](#) [networks](#) [edge-forwarding index](#)

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