


Two-distance transitive normal Cayley graphs*

Jun-Jie Huang , Yan-Quan Feng [†] , Jin-Xin Zhou 

*School of mathematics and statistics, Beijing Jiaotong University,
Beijing 100044, P. R. China*

Received 3 April 2021, accepted 10 July 2021, published online 14 April 2022

Abstract

In this paper, we construct an infinite family of normal Cayley graphs, which are 2-distance-transitive but neither distance-transitive nor 2-arc-transitive. This answers a question proposed by Chen, Jin and Li in 2019.

Keywords: Cayley graph, 2-distance-transitive graph, simple group.

Math. Subj. Class. (2020): 05C25, 05E18, 20B25

*The work was supported by the National Natural Science Foundation of China (11731002, 12011540376, 12011530455, 12071023, 12161141005) and the 111 Project of China (B16002).

[†]Corresponding author.

E-mail addresses: 20118006@bjtu.edu.cn (Jun-Jie Huang), yqfeng@bjtu.edu.cn (Yan-Quan Feng), jxzhou@bjtu.edu.cn (Jin-Xin Zhou)

2-razdaljno tranzitivni normalni Cayleyjevi grafi*

Jun-Jie Huang , Yan-Quan Feng [†] , Jin-Xin Zhou 

*School of mathematics and statistics, Beijing Jiaotong University,
Beijing 100044, P. R. China*

Prejeto 3. aprila 2021, sprejeto 10. julija 2021, objavljeno na spletu 14. aprila 2022

Povzetek

V tem članku konstruiramo neskončno družino normalnih Cayleyjevih grafov, ki so 2-razdaljno tranzitivni, niso pa ne razdaljno tranzitivni ne 2-ločno tranzitivni. S tem je odgovorjeno na vprašanje, ki so ga zastavili Chen, Jin in Li leta 2019.

Ključne besede: Cayleyjev graf, 2-razdaljno tranzitiven graf, enostavna grupa.

Math. Subj. Class. (2020): 05C25, 05E18, 20B25

*To delo je bilo podprto s strani National Natural Science Foundation of China (11731002, 12011540376, 12011530455, 12071023, 12161141005) in Project of China 111 (B16002).

[†]Kontaktni avtor.

E-poštni naslovi: 20118006@bjtu.edu.cn (Jun-Jie Huang), yqfeng@bjtu.edu.cn (Yan-Quan Feng), jxzhou@bjtu.edu.cn (Jin-Xin Zhou)