

奇阶完备残差图

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Residually Complete Graph with Odd Order

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摘要 本文讨论奇阶完备残差图, 证明了对于任意奇数 n , 不存在奇阶 K_n -残差图. 对任意奇数 $t \geq 3$ 和 $n=2t, 2t-2, 2t-4$ 构造了一类具有奇阶 $2n+t$ 的 K_n -残差图. 我们证明了当 $n \equiv 0, (\text{mod } 4)$ 时, K_n -残差图的最小奇阶为 $(5n/2)+1$; 当 $n \equiv 2, (\text{mod } 4)$ 时, K_n -残差图的最小奇阶为 $(5n/2)$, 并且证明了相应的最小奇阶 K_n -残差图的唯一性.

关键词: 完备残差图 闭邻域

Abstract: In this paper, we discuss residually complete graphs with odd order, it is easy to prove that for any odd number n , there is no K_n -residual graphs with odd order. For odd integer $t \geq 3$ and $n = 2t, 2t-2, 2t-4$, we construct a class of K_n -residual graphs with odd order $2n + t$. For every even number n , we proved that there exist K_n -residual graphs with odd orders are $(5n/2)$ and $5n/2 + 1$ whenever $n \equiv 2 (\text{mod } 4)$ and $n \equiv 0 (\text{mod } 4)$ respectively. For $n \equiv 2 (\text{mod } 4)$, we proved that K_n -residual graph with least odd order is unique.

Key words: residually complete graph neighborhood

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