The Determinant and Arc Indices of Theta Curves and Handcuff-Graphs

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Lower and Upper Bounds of Arc Index

Upper Bounds of Arc Index

Theorem

Let T be any θ-curve. Then,

$$\alpha(T) \leq c(T) + 3.$$

Theorem

Let H be any handcuff graph. Then,

$$\alpha(H) \leq c(H) + 5.$$

Especially, if the constituent link of H is non-split,

$$\alpha(H) \leq c(H) + 3.$$

Upper Bounds of Arc Index

Theorem

Let T be any non-trivial prime θ-curve or handcuff graph. Then,

$$\alpha(T) \leq c(T) + 3.$$