A Proof for the Routh-Hurwitz Criterion by Mathematical Induction

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ABSTRACT

Abstract—The well known Routh-Hurwitz criterion represents a method of determining the location of zeros of a polynomial with constant real coefficients with respect to the left half and the right half of the s-plane, without actually solving for the zeros. In this paper we give a different method to prove the Routh-Hurwitz criterion by mathematical induction.

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羅斯─赫維茲準則數學歸納法之證明

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摘 要

羅斯─赫維茲準則是自動控制理論中很著名判斷穩定性的方法，用此方法可以確定一常數系數多項式的零點是否在S—平面的左半面或右半面，而不必將此多項式分解因式。在此篇論文中，吾人用數學歸納法證明了羅斯─赫維茲準則。

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