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Hyers-Ulam-Rassias Stability for a Third-Order Linear Differential Equation

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Abstract

This paper investigates the Hyers-Ulam-Rassias stability of third-order linear differential equations of the form

$$y^{(3)}(x) + \alpha y''(x) - \beta y'(x) + \gamma y(x) = f(x), \quad x \text{ in } [a,b]$$

where α , β , and γ are real parameters, $[a,b]$ is a real interval, $y \in C^3[a,b]$, and $f \in C[a,b]$.

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