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Application of Chaos in Genetic Algorithms

YANG Li-Jiang and CHEN Tian-Lun

Department of Physics, Nankai University, Tianjin 300071, China (Received: 2001-11-1; Revised:)

Abstract: Through replacing Gaussian mutation operator in real-coded genetic algorithm with a chaotic mapping, we present a genetic algorithm with chaotic mutation. To examine this new algorithm, we applied our algorithm to function optimization problems and obtained good results. Furthermore the orbital points' distribution of chaotic mapping and the effects of chaotic mutation with different parameters were studied in order to make the chaotic mutation mechanism be utilized efficiently.

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Key words: genetic algorithms, chaos, function optimization

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