

MODIFICATION OF STEEPEST DESCENT
METHOD FOR SOLVING UNCONSTRAINED
OPTIMIZATION

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The classical steepest descent (SD) method is known as one of the earliest and the best method to minimize a function. Even though the convergence rate is quite slow, but its simplicity has made it one of the easiest methods to be used and applied especially in the form of computer codes. In this research, a new modification of SD method is proposed using a new search direction (d_k) in the form of two parameters. The numerical result based on number of iteration and CPU time using standard optimization test problems shows that this modification SD converges faster and efficient than the classical SD method.

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**PENGUBAHSUAIAN KAEDAH PENURUNAN TERCURAM
BAGI MENYELESAIKAN PENGOPTIMUMAN TAK
BERKEKANGAN**

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Kaedah penurunan tercuram dikenali sebagai salah satu kaedah yang terawal dan terbaik untuk meminimumkan fungsi. Walaupun kadar penumpuan agak perlahan, tetapi keringkasannya telah menjadikan ia salah satu kaedah yang paling mudah untuk digunakan terutamanya dalam bentuk kod komputer. Dalam penyelidikan ini, suatu pengubahsuaian baru kaedah penurunan tercuram telah dicadangkan dengan menggunakan arah carian baru (d_k) dalam bentuk dua parameter. Keputusan berangka berdasarkan bilangan lelaran dan masa CPU dengan menggunakan masalah piawai pengoptimuman menunjukkan bahawa pengubahsuaian kaedah penurunan tercuram ini mempunyai kadar penumpuan yang lebih cepat dan berkesan daripada kaedah penurunan tercuram asal.