

**COMPARATIVE STUDY OF CONJUGATE GRADIENT
METHODS UNDER ARMIJO LINE SEARCH**

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ABSTRACT

The conjugate gradient (CG) method is one of the optimization methods that is often used in practical applications. The continuous and numerous studies conducted on the CG method have led to vast improvements in its convergence properties and efficiency. In this project, a few CG methods are chosen to be tested under Armijo Line Search based on their efficiency and robustness. These methods are tested with a set of test functions with different variable. There are three initial points used for each method. The number of iteration and CPU time are evaluated in order to find the best method. Based on the results, LAMR method is known to be the best method compared to AMRI, NRMI, AMRO and MRM as it has quite good performance as well as it can solve 100% of the test functions.

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