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AM-3

Conjugate Gradient Method for Solving a Quadratic Matrix Equation

We show how the minimization can be used to solve the quadratic matrix equattion. We then compare two different types of conjugate gradient method and show Polak and Ribi□e version converge more rapidly than Fletcher and Reeves version in several examples.

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AM-4

A surface extension method using several functions

We propose a method of surface extension method using several functions. Interpolation theory is well developed in curve and surface. But extrapolation theory is not well developed because it is not unique outside the useful domain. It requires continuous, first derivative, second derivative continuous extension for matching in NC(Numerical Control) machine. In the past, we generate data outside the useful area and refit those data using least squares method. this has some problems which have some errors within the useful area. We keep the useful area and extend the unuseful area by a function.