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(54) **FAST COMBINATORIAL ALGORITHM FOR THE SOLUTION OF LINEARLY CONSTRAINED LEAST SQUARES PROBLEMS**

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See application file for complete search history.

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(57) **ABSTRACT**

A fast combinatorial algorithm can significantly reduce the computational burden when solving general equality and inequality constrained least squares problems with large numbers of observation vectors. The combinatorial algorithm provides a mathematically rigorous solution and operates at great speed by reorganizing the calculations to take advantage of the combinatorial nature of the problems to be solved. The combinatorial algorithm exploits the structure that exists in large-scale problems in order to minimize the number of arithmetic operations required to obtain a solution.

20 Claims, 4 Drawing Sheets

