
Faster primal solvers

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Abstract

This lecture covers different solution methods which build upon the basic scheme of Moulinec & Suquet. A key characteristic of these solvers is that each iterate is compatible. There are actually two opposing characteristics that are desired for FFT-based solvers: convergence speed and memory consumption. To some extent, one of them may be traded for the other.

We will discuss accelerated gradient methods, Newton's method and recent methods with adaptive parameter selection in the context of FFT-based computational micromechanics.

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