EFFICIENT PRECONDITIONING TECHNIQUES FOR PHASE-FIELD MODELS

Owe Axelsson

Institute of Geonics AS CR, Ostrava, Czech Republic e-mail: owe.axelsson@it.uu.se

Abstract

In order to avoid interface conditions and enable the use of a fixed mesh in timedependent problems, it is shown that a diffusive model of Cahn-Hilliard type can be used. Some numerical examples illustrate the method. A preconditioning method is used that needs no update. Efficient implementation on parallel clusters are shown.