## Finite element approximations for a linear stochastic Cahn-Hilliard-Cook equation

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## Abstract

We consider an initial- and Dirichlet boundary- value problem for a linear stochastic Cahn-Hilliard-Cook equation driven by an additive noise. We approximate its solution using, for the discretization in space, a finite element method, and for the discretization in time, a timestepping method. For the proposed numerical method, we derive strong a priori error estimates.

Key words: stochastic Cahn-Hilliard-Cook equation, finite element method, error estimates.