

# Iterative Calibration of Local Volatility Surface.

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## Abstract

This work focus on to prove that the parameter-to-solution map associated to identify a diffusive coefficient in a specific parabolic PDE satisfies the *local tangential cone condition*. With this, we show stability and convergence of the regularized solutions using iterative regularization methods. A special attention to the nonlinear Landweber method is given. An application in the local volatility identification problem to the Black-Scholes model for European call options is analyzed and numerical validations are presented.

**Key words:** Iterative regularization, parameter identification, local volatility surfaces.

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