Title Page Dummy

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Title page logo

Abstract Dummy Page.

"These violent delights have violent ends"
(Romeo and Juliet: Act 2, Scene 6, Line 9)

List of papers

This thesis is based on the following papers, which are referred to in the text by their Roman numerals.

  I   Radial Basis Function generated Finite Differences for Option Pricing Problems

  II   BENCHOP — The BENCHmarking Project in Option Pricing

 III   BENCHOP-SLV: The BENCHmarking project in Option Pricing — Stochastic and Local Volatility problems

 IV   Pricing Derivatives under Multiple Stochastic Factors by Localized Radial Basis Function Methods

  V   Pricing Financial Derivatives using Radial Basis Function generated Finite Differences with Polyharmonic Splines on Smoothly Varying Node Layouts

 VI   SMOOTHING PAPER TITLE

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Contents

1. Introduction

Introduce the idea of the thesis and state the structure. Radial Basis Function generated Finite Difference Methods. Radial Basis Function generated Finite Difference Methods. Radial Basis Function generated Finite Difference Methods. Radial Basis Function generated Finite Difference Methods.

2. Financial Derivatives

1 1 2 2 3 3 Introduce financial derivatives. $S = S_0 + \alpha \int_j = 1^N x dx$. Start with simple reasoning of necessity for the agreed prices in the future and then generalize towards options. Hedging risks. Say a bit on importance of knowing the fair price. Talk about options, futures, and other derivatives. Explain the Greeks. Definitions.

$$W_0 = \frac{\partial u}{\partial t} \int_{i=1}^{M} x dx. \tag{2.1}$$

2.1 Futures

2.2 Options

3. Option Pricing

Talk about stochastic and deterministic formulation.

3.1 Market Models

State, motivate and explain the models used in BENCHOP.

3.2 Pricing Methods

Talk about all the method groups from BENCHOP.

4. Radial Basis Function generated Finite Difference Methods

Similar to explanation in our papers, a bit of history and the method evolution throughout the papers.

4.1 Choosing Shape Parameters

4.2 Constructing Node Layouts

4.3 Smoothing Payoff Functions

5. Outlook and Further Development

Sumarize.

Acknowledgements

Wohoo!

Sammanfattning

Jag skriver på svenska här.

Сажетак

Ова теза злата вреди!