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The Hong Kong University of Science and Technology

Department of Mathematics

Mathematics Colloquium

Closed-form Implied Volatility Surfaces for Stochastic Volatility Models

By

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Abstract

This paper explores the link between stochastic volatility models and implied volatility data. We develop a closed-form bivariate expansion of the shape characteristics of the implied volatility surface generated by a stochastic volatility model. This makes it possible to analyze the impact of the various parameters and/or structures of a stochastic volatility model on the implied volatility surface. Conversely, we also construct an "implied stochastic volatility model" designed to fit by construction the implied volatility data.

Date:	**Thursday, 8 February 2018**
Time:	**11:00 a.m. – 12:00 n.n.**
Venue:	**Room 4472, Academic Building (near Lifts 25&26), HKUST**

All are welcome!