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A versatile approach for stochastic correlation using hyperbolic functions

L. Teng, C. Van Emmerich, M. Ehrhardt & M. Günther

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Abstract

It is well known that the correlation between financial products or financial institutions, e.g. plays an essential role in pricing and evaluation of financial derivatives. Using simply a constant or deterministic correlation may lead to correlation risk, since market observations give evidence that correlation is not a deterministic quantity. In this work, we propose a new approach to model the correlation as a hyperbolic function of a stochast which is much m many financial ing process (with po meter restr e, we compute rical results we discu ng the Quanto.

Keywords: correlation risk stochastic correlation hyperbolic functions stochastic process Ornstein–Uhlenbeck process Quanto Fokker–Planck equation stochastic correlation process

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Disclosure statement

No potential conflict of interest was reported by the authors.

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