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A new representation of the local volatility surface

We address the problem of recovering the local volatility surface from market option prices. An Ansatz approach is employed to obtain a semi-explicit solution of Dupire's forward equation. This solution, in turn, gives rise to a new expression for the volatility surface in terms of the price of a European call or put. We also show the results of a numerical simulation.

Joint work with R. Mamon, University of Western Ontario.