

KO-MIX

Interní seminář pracovníků KMD

Srdečně zveme pracovníky KMD, KAP a další zájemce z řad veřejnosti na přednášku pořádanou v rámci odborného semináře *KO-MIX*

An influence of boundary conditions on the numerical solution of the Black-Scholes option pricing model discretized by DG method

Přednáší: RNDr. Jiří HOZMAN, Ph.D. (KMD, FP TU v Liberci)

Termín: Pondělí 24. listopadu 2014, 14:20 hodin

Místo konání: Kabinet KMD a KAP

(Univerzitní nám. 1410/1, Liberec, budova G areálu TUL - 4. patro)

Abstrakt přednášky:

The valuation of a wide range of option contracts using the different financial models has acquired increasing popularity in modern financial theory and practice. This lecture is dedicated to the plain vanilla option pricing problem, driven according to the one-dimensional Black-Scholes equation, and the main attention is paid to the treatment of boundary conditions.

The whole system is discretized by the discontinuous Galerkin method combined with the implicit Euler scheme for the temporal discretization. Three concepts of boundary conditions (b.c.) are mentioned here such as Dirichlet, Neumann and transparent b.c. and their influence on the approximate solution and order of convergence together with the localization of an underlying asset and a strike price.

The preliminary numerical results are presented on real data of the DAX on 15/9/2011 with implied volatilities and compare the different treatments of boundary conditions to each other.

Literatura:

J. Hozman, T. Tichý: *A note on the treatment of boundary conditions for the vanilla option pricing problem discretized by DG method*, International Scientific Conference Managing and Modelling of Financial Risks, VŠB-TU Ostrava, Ostrava, 2014 (submitted).

Za organizátory semináře srdečně zve

RNDr. Václav Finěk, Ph.D.