1077-60-1797   **Son Luu Nguyen*** (`snguyen@math.carleton.ca`), 1125 Colonel By Drive, Ottawa, Ontario K1S 5B6, Canada, and **George Yin**, 1150 Faculty/Administration Building, 656 W. Kirby, Detroit, MI 48202. *Pathwise Convergence Rate for Numerical Solutions of Stochastic Differential Equations.*

Devoted to numerical solutions of stochastic differential equations (SDEs), this work constructs a sequence of re-embedded numerical solutions having the same distribution as that of the original SDE in a new probability space. It is shown that the re-embedded numerical solutions converge pathwise strongly to the solution of the SDE. Different from the well-known results in numerical solutions of SDEs, in lieu of the usually employed Brownian motion increments in the algorithm, an easily implementable sequence of independent and identically distributed random variables is used. (Received September 21, 2011)