Year: 2009 | **Vol.: 75** | **Fasc.: 3-4**

Title: Multiple fractional integrals through Gamma-mixed Ornstein–Uhlenbeck process

Author(s): Constantin Tudor and Maria Tudor

We prove the mean square convergence of multiple Riemann–Stieltjes integrals based on the integral process defined by the Gamma-mixed Ornstein–Uhlenbeck process to multiple fractional Stratonovich integrals. The integrands belong to the subclass of the Schwartz space $\mathcal{S}(R^n)$ of rapidly decreasing functions whose fractional integrals remain rapidly decreasing. In particular the result applies for integrands in the Lizorkin space, i.e., the subspace of $\mathcal{S}(R^n)$ which is orthogonal to all polynomials.

Address:
Constantin Tudor
Faculty of Mathematics
and Computer Science
University of Bucharest
14 Academiei St.
Bucharest 010014
Romania

Address:
Maria Tudor
Department of Mathematics
Academy of Economical Studies
Bucharest
Romania
E-mail: ctudor50@rdslink.ro