



Volume 3, Issue 2, Article 22

## Multidimensional Extension of L.C. Young's Inequality

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**Keywords:** Inequalities, Stieltjes Integral,  $p$ -variation.  
**Date Received:** 10/04/01  
**Date Accepted:** 16/11/01  
**Subject Codes:** 26B15, 26A42, 28A35, 28A25.  
**Editors:** [Laszlo Losonczy](#),

**Abstract:** A classical inequality of L. C. Young is extended to higher dimensions, and using this extension sufficient conditions for the existence of integral  $\int_{[0,1]^n} f dg$  are given, where both  $f$  and  $g$  are functions of finite higher variations.



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