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Adam Bowers* (bowers@math.uconn.edu), University of Connecticut, Department of Mathematics, Storrs, CT 062693009. *A continuous version of the Grothendieck inequality.*

In 1956 Alexandre Grothendieck published *Résumé de la théorie métrique des produits tensoriels topologiques*, in which his *théorème fondamental de la théorie métrique des produits tensoriels* first appeared. In 1968 Lindenstrauss and Pełczyński reformulated it as a matrix inequality. We generalize the inequality to a continuous version by means of bimeasures, and show how an integral of an inner product of functions against a bimeasure is related to integration of vector-valued functions against vector-valued measures. (Received September 19, 2007)