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William B Johnson, Bernard Maurey and Gideon Schechtman*

(gideon@weizmann.ac.il), Department Of Mathematics, Weizmann Institute of Science, 76100 Rehovot, Israel. The class of \mathcal{L}_1 spaces is closed under uniform equivalences. Preliminary report.

We show, in particular, that a linear operator between finite dimensional normed spaces which factors through a third separable Banach space Z via Lipschitz maps factors linearly through the identity from $L_{\infty}(Z)$ to $L_1(Z)$ (and thus in particular through each of $L_p(Z)$) with the same factorization constant. It follows that, for each $1 \le p \le \infty$, the class of \mathcal{L}_p spaces is closed under uniform (and even coarse) equivalences. The case p = 1 is new and solves a problem raised by Heinrich and Mankiewicz in 1982. (Received September 20, 2005)