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ON A FORMULA OF LE MERDY FOR THE COMPLEX INTERPOLATION OF TENSOR PRODUCTS

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ABSTRACT. C. Le Merdy in [Proc. Amer. Math. Soc. 126 (1998), 715–719] proved the following complex interpolation formula for injective tensor products: $[\ell_2\tilde{\otimes}_\varepsilon\ell_1, \ell_2\tilde{\otimes}_\varepsilon\ell_\infty]_{\frac{1}{2}} = \mathcal{S}_4$. We investigate whether related formulas hold when considering arbitrary $0 < \theta < 1$ instead of $\frac{1}{2}$, and give a partially positive answer for $\theta < \frac{1}{2}$ and a negative answer for $\theta > \frac{1}{2}$. Furthermore, we briefly discuss the more general case when ℓ_2 is replaced by ℓ_q, $1 < q < 2$, and ℓ_1 and ℓ_∞ by ℓ_{p_0} and ℓ_{p_1}, respectively.

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