

Uncomplemented $\ell^{p,\infty}$

Denny Leung

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It is enough to extend maps $T : F \rightarrow \ell^p(n)$ with control of norms.

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Observe that Pisier for $L^{p,\infty}$ implies injectivity of $L^{p,\infty}(\mu)$ in the category of Weak L^p spaces with positive maps. That is, every lattice isomorphic copy of $L^{p,\infty}(\mu)$ in a Weak L^p space is positively complemented.

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Works also for $FBL^{(p)}$ and L^p . It gives an alternative solution of the “subspace/embedding” for $FBL^{(p)}$ without using Piser.

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$$\ell^{p,\infty}(n) \mapsto \ell^{p,\infty} : e_i \mapsto k_n^{-1/p} \chi_{A_i}, A_1, \dots, A_n \text{ disjoint}, |A_i| = k_n.$$

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S is an unconditional sequence space. The unit vector basis is a weakly null sequence.

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The End

Thank You