

A Jubilee Theorem for Pepe Bonet

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We shall provide a precise answer to Lindenstrauss' Question 18 in [4]. Moreover, the Banach space E admits an equivalent LUR norm on any subset of S_E contained in a family \mathcal{F} of $\sigma(E, E^*)$ -compact and separable faces such that

$$\mathcal{F} = \bigcup_{n=1}^{\infty} \mathcal{F}_n$$

where every one of the families \mathcal{F}_n is a subfamily of disjoint faces. Completely new results are obtained when compactness is replaced by a new condition in terms of pressing down on separable faces without touching disjoint ones, i.e. **what we call to have a perfectly pumped ball with separable faces is going to characterize the fact to have an equivalent LUR norm.**

For a Banach space E with a Fréchet differentiable norm we shall deal with the existence of an equivalent LUR norm which will provide us our Jubilee Theorem for Pepe.

This is a joint research with Vicente Montesinos.

References

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