

THE SZLENK INDEX OF $L_p(X)$

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We find an optimal upper bound on the values of the weak*-dentability index $Dz(X)$ in terms of the Szlenk index $Sz(X)$ of a Banach space X with separable dual. Namely, if $Sz(X) = \omega^\alpha$, for some $\alpha < \omega_1$, and $p \in (1, \infty)$, then

$$Sz(X) \leq Dz(X) \leq Sz(L_p(X)) \leq \begin{cases} \omega^{\alpha+1} & \text{if } \alpha \text{ is a finite ordinal,} \\ \omega^\alpha & \text{if } \alpha \text{ is an infinite ordinal.} \end{cases}$$

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