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Lebesgue's constants in local Dirichlet spaces

The partial Taylor sums S_n, $n \geq 0$, are finite rank operators on any Banach space of analytic functions on the open unit disc. In the classical setting of disc algebra $\mathcal{A}$, the precise value of $\|S_n\|_{\mathcal{A} \to \mathcal{A}}$ is not known. These numbers are referred as the Lebesgue constants and they grow like $\log n$, modulo a multiplicative constant, when n tends to infinity. We study $\|S_n\|$ when it acts on the local Dirichlet space $\mathcal{D}_\zeta$. There are several distinguished ways to put a norm on $\mathcal{D}_\zeta$ and each choice naturally leads to a different operator norm for S_n, as an operator on $\mathcal{D}_\zeta$. We consider three different norms on $\mathcal{D}_\zeta$ and, in each case, evaluate the precise value of $\|S_n\|_{\mathcal{D}_\zeta \to \mathcal{D}_\zeta}$. In each case, we also show that the maximizing function is unique.