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## Cyclicity in the analytic Dirichlet space

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We establish upper and lower bounds for the Dirichlet integral of outer functions  $f$  such that  $|f^*(\zeta)| = w(d(\zeta, E))$  ( $\zeta \in \mathbb{T}$ ), where  $E$  is a closed subset of  $\mathbb{T}$  of measure zero, and  $w : (0, \pi] \rightarrow \mathbb{R}^+$  is a function satisfying certain regularity conditions. As an application, we obtain a new condition on  $E$  ensuring that every outer function with zero set  $E$  and finite Dirichlet integral is cyclic in the Dirichlet space.

*Joint work with Karim Kellay and Thomas Ransford .*