Regularity of certain domains in the complex plane

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ABSTRACT: In the talk we consider problems about regularity of boundaries of Nevanlinna and quadrature domains. Our considerations is based on studies of special properties of univalent functions belonging to model spaces and on recent results about growth of the quantity

$$\int_{\mathbb{T}} |R'(z)|\, dm(z)$$

for rational functions R of degree n, which are bounded and univalent in the unit disk. In particular it will be shown that the latter quantity may grow as n^{γ}, $B_b(1) \leq \gamma \leq 1/2$, when $n \to \infty$.