

On α -normal and α -Yosida functions **R. Aulaskari, S. Makhmutov**
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Let f be a meromorphic function in the unit disk \mathcal{D} , and let g be a meromorphic function in the complex plane \mathbf{C} . The spherical derivative of f is denoted by $f^\# = |f'|/(1 + |f|^2)$. For $\alpha > 1$, the α -normal class \mathcal{N}^α consists of all meromorphic functions f in \mathcal{D} satisfying $\sup_{z \in \mathcal{D}} (1 - |z|^2)^\alpha f^\#(z) < \infty$. For $-1 \leq \alpha < \infty$, the class Y^α , α -Yosida functions, is composed of all meromorphic functions g in \mathbf{C} for which $g^\#(z) = O(|z|^\alpha)$ as $|z| \rightarrow \infty$. The oscillation characterizations are given for both classes \mathcal{N}^α and Y^α and the classes are also studied by using rotations of the Riemann sphere.