Which Powers Of A Holomorphic Function Are Integrable?

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Let $f = f(z_1, \ldots, z_n)$ be a holomorphic function defined on an open subset $P \in U \subset \mathbb{C}^n$. The log canonical threshold of $f$ at $P$ is the largest $s \in \mathbb{R}$ such that $|f|^s$ is locally integrable at $P$. This invariant gives a sophisticated measure of the singularities of the set defined by the zero locus of $f$ which is of importance in a variety of contexts (such as the minimal model program and the existence of Kähler-Einstein metrics in the negatively curved case). In this talk we will discuss recent results on the remarkable structure enjoyed by these invariants.