COMPARISON THEOREM FOR MONGE THE AMPERE CAPACITY AND THE CHEBYSHEV CONSTANT ON ALGEBRAIC VARIETIES AND A CONTINUITY PROPERTY OF THE MONGE AMPERE OPERATOR

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ABSTRACT. Let $A \subset \mathbb{C}^n$ be a m-dimensional algebraic variety and K a compact subset of it. We prove that the Monge Ampere relative capacity $\text{cap}(K, \Omega)$ is comparable with the Chebyshev constant $T(K, A)$. Here $\Omega := \{z \in A : |z_1, \ldots, z_m|^2 < 1\}$ in a specific system of coordinates. This result has been proven in the flat case (i.e., $A = \mathbb{C}^m$ $\Omega = B(0, 1)$) by Alexander and Taylor.

We use this comparability to extend to algebraic varieties a continuity theorem for the Monge ampere operator due to Bloom and Levenberg in the case of $\mathbb{C}^m$.

As an application, we provide a mass density sufficient condition for a measure μ to satisfy the Bernstein Markov property for polynommials.

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