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About Nagata's conjecture

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Let S be a finite set of distincts points in $\mathbb{C}^2$. For a positive integer l, define $\Omega(S,l)$ to be the least integer d such that there is a polynomial of degree d vanishing at each point of S with order at least l.
Nagata (59) conjectured that $\Omega(S,l) \geq l\sqrt{card(S)}$ for $card(S) > 9$ and S generic, and he proved that this inequality is valid when $card(S)$ is a perfect square.
Later a generalized conjecture was posed (Harbourne) : for a generic S in $\mathbb{C}^2$ with $card(S) > 9$, we have $\sum_{A\in S} ord(P,A) \leq \sqrt{card(S)}deg(P)$, for any polynomial P.
In this talk we will tackle this problem with an analytic point of view, by using pluripotential technics.
