THE HULL OF A CURVE IN $\mathbb{C}^n$

During this talk I will present some results of the paper *The Hull of a Curve in* $\mathbb{C}^n$, by John Wermer (1957).

Consider a curve Γ in $\mathbb{C}^n$ given parametrically by the equations

$$z_i = \varphi_i(u), \quad i = 1, ..., n, \quad |u| = 1.$$

Assume that

- Each φ_i is an analytic in an annulus containing the unit circle.
- The φ_i together separate points on $|u| = 1$.
- $\varphi_1' \neq 0$ for $|u| = 1$.

The main theorem is

Theorem 1. $h(\Gamma) \neq \Gamma$ *if and only if for all n-tuples $(m_1, ..., m_n)$ of non-negative integers we have*

$$\int_{|u|=1} \varphi_1^{m_1}(u) \cdot \varphi_2^{m_2}(u) \cdots \varphi_n^{m_n}(u) \cdot \varphi_1'(u) du = 0.$$

Here, $h(\Gamma)$ denotes the polynomially convex hull.