

# Fekete Points on Curves, Hankel Determinants and the Moment Problem

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Suppose that  $V \subset \mathbb{C}^d$  is an algebraic variety and that  $K \subset V$  is a compact set. The polynomials of degree  $n$  when restricted to  $K$  form a certain subspace of dimension  $N$  (say) and basis  $\{P_1, \dots, P_N\}$ . For a set of points  $x_1, \dots, x_N \in K$  we may form the so-called associated Vandermonde determinant  $\det([P_i(x_j)]_{1 \leq i, j \leq N})$ . The points which maximize this determinant are called the Fekete points and are known to be good points for polynomial interpolation. Of interest is there asymptotic behaviour. In this talk we will discuss such Fekete points and how the associated Vandermonde determinants are related to classical Hankel determinants and the classical Moment Problem.