

## **Fekete Configurations, Products of Vandermonde Determinants and Canonical Point Processes**

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The asymptotic behavior of Fekete configurations is a classical topic in complex analysis. By definition, Fekete configurations are arrays of points that maximize Vandermonde determinants. From a complex geometric perspective, any Hermitian ample line bundle over a compact Kähler manifold defines a sequence of Vandermonde determinants of increasing dimension and thus a notion of Fekete configurations. In this talk we will consider a collection of Hermitian ample line bundles over a fixed compact Kähler manifold. I will present two results. One regarding the product of the associated Vandermonde determinants and the asymptotic behavior of its maximizers and one regarding existence of sequences of point configurations which are asymptotically Fekete (a slightly weaker concept than Fekete) with respect to all Hermitian ample line bundles simultaneously. If time permits I will also outline a conjectural picture involving a related class of point processes and its connection to canonical metrics in complex geometry.