1041-42-83 **Kathryn E. Hare*** (kehare@uwaterloo.ca), Dept. of Pure Mathematics, University of Waterloo, Waterloo, Ont. N2L 3G1, Canada. *Kronecker constants for sets of integers.*

A set of integers $S$ is called an $\varepsilon$-Kronecker set if for every $\phi : S \to [0, 2\pi]$ there exists $x \in [0, 2\pi]$ such that $|e^{inx} - \phi(n)| < \varepsilon$ for all $n \in S$. $\varepsilon$-Kronecker sets can be viewed as satisfying a weak independence property and examples include all Hadamard sets with sufficiently large ratios. When $\varepsilon < \sqrt{2}$, an $\varepsilon$-Kronecker set is Sidon.

In this talk we will discuss a geometric approach to calculating Kronecker constants which has lead to both improved bounds and a computer algorithm that was very helpful in determining the Kronecker constants of various (infinite) classes of finite sets. The answers, even for sets of size three, are surprisingly complicated. This is joint work with T. Ramsey. (Received August 05, 2008)