1099-42-144 **Paul Hagelstein*** (paul_hagelstein@baylor.edu), Department of Mathematics, Baylor University, Waco, TX 76798. *Solyanik Estimates in Harmonic Analysis.*

Let $\mathcal{B}$ denote a collection of measurable sets in $\mathbb{R}^n$, and define the corresponding maximal operator $M_{\mathcal{B}}$ by

$$M_{\mathcal{B}} f(x) = \sup_{x \in R \in \mathcal{B}} \frac{1}{|R|} \int_R |f| \; .$$

For $0 < \alpha < 1$, let $C_{\mathcal{B}}(\alpha)$ denote the sharp Tauberian constant of $\mathcal{B}$ with respect to α, defined by

$$C_{\mathcal{B}}(\alpha) = \sup_{E \subset \mathbb{R}^n : 0 < |E| < \infty} \frac{1}{|E|} |\{x : M_{\mathcal{B}} \chi_E(x) > \alpha\}| \; .$$

If $\lim_{\alpha \to 1^-} C_{\mathcal{B}}(\alpha) = 1$, we say that the maximal operator $M_{\mathcal{B}}$ satisfies a *Solyanik estimate.* In this talk, we will discuss conditions on a basis $\mathcal{B}$ that imply that $M_{\mathcal{B}}$ satisfies a Solyanik estimate. Questions regarding *sharp* Solyanik estimates will also be considered, and open problems regarding Solyanik estimates will be provided. The results presented will be recent ones joint with Oleksandra Beznosova and Ioannis Parissis. (Received February 05, 2014)