1137-42-231 **Azita Mayeli*** (amayeli@gc.cuny.edu), New York, NY 10016. *Convex and symmetric sets with smooth boundary do not have orthogonal Gabor bases.* Preliminary report.

Let K be a convex and symmetric bounded set in $\mathbb{R}^d$, $d \geq 2$, with smooth boundary. Using a combinatorial approach, we show that for $d \neq 1(mod 4)$, the indicator function of K can not serve as an orthogonal Gabor window function for $L^2(\mathbb{R}^d)$. That means that there is no countable set $S \subset \mathbb{R}^{2d}$ such that the Gabor family $\mathcal{G}(1_K, S) = \{e^{2\pi i x \cdot b} 1_K(x-a) : (a,b) \in S\}$ is an orthogonal basis for $L^2(\mathbb{R}^d)$.

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