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**Terry Harris\*** ([terence2@illinois.edu](mailto:terence2@illinois.edu)). *Improved bounds for restricted projection families via Fourier restriction.*

Let  $\gamma : [0, 1] \rightarrow S^2$  be a curve in the sphere in  $\mathbb{R}^3$  satisfying the non-degeneracy condition  $\det(\gamma, \gamma', \gamma'') \neq 0$ . Given a set  $A \subseteq \mathbb{R}^3$  of Hausdorff dimension at most 2, it is conjectured that the orthogonal projection of  $A$  onto the 2-dimensional plane orthogonal to  $\gamma(t)$  has the same Hausdorff dimension as  $A$ , for almost every  $t \in [0, 1]$ . In this talk, I will present some improved lower bounds for this problem obtained via Fourier restriction. I will also present two generalisations of this problem in higher dimensions. (Received September 09, 2019)