

DECOUPLING FOR CANTOR SETS ON THE LINE AND PARABOLA

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We first discuss the problem of decoupling a Cantor set as a subset of $[0, 1]$. In certain cases, this problem reduces to a number theory problem about solution counting. We then upgrade this result to decoupling a Cantor set on a parabola. Our result generalizes and improves upon what one would obtain if one directly applied the Bourgain-Demeter decoupling theorem for the parabola due to the sparsity of the Fourier supports we consider. This is joint work with Alan Chang, Jaume de Dios Pont, Rachel Greenfeld, Asgar Janneshan, and José Madrid.