1019-00-92   **Michael T Lacey** (`lacey@math.gatech.edu`), Department of Mathematics, Georgia Institute of Technology, Atlanta, GA 30332, and **William C McClain*** (`bill@math.gatech.edu`), Departtment of Mathematics, Georgia Institute of Technology, Atlanta, GA 30332. *On an Argument of Shkredov on Two-Dimensional Corners in a Finite-Field Setting.*

Let $\mathbb{F}_2^n$ be the finite field of cardinality 2^n. For all large n, any subset $A \subset \mathbb{F}_2^n \times \mathbb{F}_2^n$ of cardinality

$$|A| \gtrsim 4^n (\log n)^{-\alpha}, \qquad \alpha < 1,$$

must contain three points $\{(x,y),(x+d,y),(x,y+d)\}$ for $x,y,d \in \mathbb{F}_2^n$ and $d \neq 0$. Our argument is an elaboration of an argument of Shkredov [**?**], building upon the finite field analog of Ben Green [**?**]. The interest in our result is in the exponent on $\log n$, which is larger than has been obtained previously. (Received August 08, 2006)