

SUBSETS OF \mathbb{F}_p^d WHERE NO THREE ELEMENTS SUM TO ZERO.

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ABSTRACT. In this paper, we do some shit that I havent quite decided yet.

1. INTRODUCTION AND BACKGROUND

Deep mathematical richness often arises from the simplest of structures, and the card game *SET* exemplifies this. Each SET card contains four features, with three possibilities for each feature. These are:

- Colour (red, green or purple),
- Shading (solid, striped, open),
- Shape (diamond, squiggle, oval),
- Number of Shapes (one, two, or three).

Three cards are said to form a SET if, for each of the four features, the three cards have that feature as either all the same or all different.