

- ▶ ALICE MEDVEDEV, ALEXANDER VAN ABEL, *The Feferman-Vaught Theorem and products of finite fields.*

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We prove that in a product ring of finite fields, the definable subsets are boolean combinations of $\exists\forall\exists$ -definable sets. This follows from the Feferman-Vaught Theorem on definability in product structures [2], and Kiefe's quantifier reduction result for finite fields [1]. We obtain via our proof that products of integral domains have the maximum amount of definable subsets allowed by the Feferman-Vaught theorem.

[1] KIEFE. C., *Sets Definable Over Finite Fields: Their Zeta-Functions*, **Transactions of the American Mathematical Society**, vol.223 (1976), pp.45-59.

[2] FEFERMAN, S., AND VAUGHT, R., *The first order properties of products of algebraic systems*, **Fundamenta Mathematicae**, vol.47 (1959), no.1, pp.57-103.