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**Zhi Jiang\*** (zhijiang@umich.edu), 3765 Greenbrier Blvd, 266C, Ann Arbor, MI 48105. *Improved explicit upper bounds for the Cap Set Problem.*

Ellenberg and Gijswijt gave the best known asymptotic upper bound for the cardinality of subsets of  $\mathbb{F}_q^n$  without 3-term arithmetic progressions. Using the G-stable rank for tensors proposed by Derksen, we improve this bound by a factor  $\sqrt{n}$ . In the case  $q = 3$ , we also obtain more explicit upper bounds for the Cap Set Problem. (Received February 19, 2021)