1037-43-158   **Alex Iosevich** and **Doowon Koh*** (`koh@math.missouri.edu`), Mathematics Department, 202
Mathematical Sciences Bldg, University of Missouri, Columbia, MO 65211. *Extension theorems for paraboloids in the finite field setting.* Preliminary report.

We study the $L^p - L^r$ boundedness of the extension operators associated with paraboloids in vector spaces over finite fields. We estimate the number of additive quadruples in the subset of the paraboloids. As a result, in higher dimensions, we improve upon the standard Stein-Tomas exponents.The discrete Fourier analytic machinery and Gauss sum estimates make an important role in the proof. (Received January 31, 2008)