1044-11-181   **Ernie Croot*** (`ecroot@math.gatech.edu`), Georgia Tech, School of Mathematics, 103 Skiles, Atlanta, GA 30332. *On the square dependence problem.*

A central problem that comes up in the analysis of certain integer factoring algorithms is the square dependence problem, described as follows: Suppose that one selects integers $x_1, x_2, \ldots$ from $\{1, \ldots, N\}$ at random until some subset has product equal to a square. What is the expected stopping time of this process? In this talk I will explain how to give a fairly precise estimate for this stopping time, and will pin it down to an interval $[y, 4y/\pi]$. This is joint work with Andrew Granville, Prasad Tetali and Robin Pemantle. (Received September 01, 2008)