1031-60-9   **Martin V. Hildebrand*** (`martinhi@math.albany.edu`), Department of Mathematics and Statistics, University at Albany, SUNY, 1400 Washington Ave., Albany, NY 12222. *A lower bound for the Chung-Diaconis-Graham random process.* Preliminary report.

Chung, Diaconis, and Graham considered random processes of the form $X_{n+1} = a_n X_n + b_n \pmod{p}$ where p is odd, $X_0 = 0$, and b_n are i.i.d. for $n = 0, 1, 2, \ldots$. In this paper, we show that if $P(b_n = -1) = P(b_n = 0) = P(b_n = 1) = 1/3$, then there exists a constant $c > 1$ such that $c \log_2 p$ steps are not enough to make X_n get close to uniformly distributed on the integers mod p. (Received May 22, 2007)