1046-11-1794   **Chaogui Zhang*** (`czhang@marywood.edu`), Department of Mathematics, Marywood University, 2300 Adams Ave, Scranton, PA 18509. *Distribution of Integers with Smooth Square Free Parts.*

Smooth integers are those with (relatively) small factors. The Dickman function describes the asymptotic probability for an integer to be smooth, which is essential in the run-time analysis of modern integer factorization algorithms such as the Quadratic Sieve and Number Field Sieve.

Integers with smooth square free parts are potentially useful for such factorization algorithms as well. The study of the asymptotic distribution of such integers will give us insight regarding the degree of possible improvements by utilizing such integers in the factorization algorithms, although currently there is no obvious or easy way for such utilization. (Received September 16, 2008)