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**Edward B. Burger\*** (eburger@williams.edu), Department of Mathematics, Williams College, Williamstown, MA 01267. *Asymptotic results involving Ostrowski's decomposition of natural numbers.*

In 1922, Ostrowski proved that given a real irrational number  $\alpha$ , each natural number  $n$  can be decomposed in a unique fashion as a sum of denominators from the convergents associated with  $\alpha$ . This result was popularized some years later by Zeckendorf in the special case  $\alpha = (1 + \sqrt{5})/2$  (in which the denominators are, in fact, the Fibonacci numbers). In 1952, Lekkerkerker computed the asymptotic limit of the average number of terms in this decomposition of natural numbers into sums of Fibonacci numbers. Here we provide an overview of this work and offer some recent advances that extend the previous results in several directions. (Received March 07, 2008)