

1125-11-1796

Krishnaswami Alladi* (alladik@ufl.edu), Department of Mathematics, University of Florida, Gainesville, FL 32611. *The local distribution of the number of small prime factors - variations of the classical theme.* Preliminary report.

Let $f(n,y)$ (resp. $F(n,y)$) denote the the number of prime factors of n that are $<y$, where $f(n,y)$ (resp. $F(n,y)$) counts prime factors singly (resp. with multiplicity). We discuss the number of integers up to x for which $f(n,y)=k$ (resp. $F(n,y)=k$), where both y and k could vary with x . When y is small, the enumeration involves partitions/compositions. As y gets larger an interesting variation of the classical situation emerges, the variation being maintained until y is quite close to x in a certain sense. The finer aspect of the local distribution of $f(n,y)$ requires analytic tools and these will be indicated along with the type of results that can proven with such methods. Details of the analysis is being carried out in the PhD thesis of my student Todd Molnar. Tenenbaum has shown in correspondence how some of our estimates could be improved. (Received September 19, 2016)