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Babu, G.J.; Manstavičius, E.**Infinitely divisible limit processes for the Ewens sampling formula.** (Russian, English)

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This paper is concerned with infinitely divisible limit processes for the Ewens sampling formula. The formula states that if there are no selection effects, the numbers of alleles k_1, k_2, \dots, k_n represented 1, 2, \dots , n times, respectively, in a sample of n genes are

$$\frac{n!}{v(v+1)\cdots(v+n-1)} \prod_{j=1}^n (v/j)^{k_j} / k_j, \quad v > 0, \quad k_j \geq 0,$$

where $k_1 + 2k_2 + \cdots + nk_n = n$. The authors show that under very general conditions a partial sum process of dependent variables converges weakly in a function space if and only if the corresponding process for independent random variables converges weakly. Necessary and sufficient conditions are established for weak convergence to a stable process, but it is shown by a counterexample that these conditions are not necessary for the one-dimensional convergence.

*Joseph M. Gani (Canberra)**Keywords* : random partition; population genetics; allelic partition; permutation; probabilistic number theory; Skorokhod topology; functional limit theorem; stable process*Classification* :

*60B10 Convergence of probability measures

60E07 Infinitely divisible distributions

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