

**Y. Yakubovich** (St. Petersburg State University of Economics, St. Petersburg, Russia and Sirius University of Science and Technology, Sirius FT, Russia). **On the growth of random partitions with the generalized Ewens measure**<sup>1</sup>

By the *generalized Ewens measure* we mean a probability measure on the set  $\mathcal{P}_n$  of partitions of an integer  $n$ , defined as  $P_n(\lambda) = \frac{1}{h_n} \prod_{j=1}^{\infty} \frac{\theta_j^{c_j(\lambda)}}{j^{c_j(\lambda)} c_j(\lambda)!}$ , where  $\theta_j \in \mathbb{R}_{\geq 0}$  ( $j \in \mathbb{N}$ ),  $c_j(\lambda)$  is the number of parts  $j$  in the partition  $\lambda$ , and  $h_n$  is a scaling factor. Classical Ewens measure corresponds to the case  $\theta_j \equiv \theta > 0$ ; we consider a more general situation

$$\theta_1 + \theta_2 + \dots + \theta_j \sim j\theta, \quad j \rightarrow \infty. \quad (1)$$

We construct a Markov partition growth process in which a new part is added to the partition at each step, and given it visits  $\mathcal{P}_n$ , this occurs at a  $P_n$ -distributed random partition. Investigation of this process allows to prove the following result.

**Theorem 1.** If (1) holds, the random partition  $\lambda^{(n)}$  has distribution  $P_n$ , and a sequence  $(\lambda_1^{(n)}/n, \lambda_2^{(n)}/n, \dots)$  of scaled random partitions converges in distribution as  $n \rightarrow \infty$ , then the limit is the Poisson–Dirichlet distribution with parameter  $\theta$ . The limit always exists if  $\theta_j \geq 1$  and  $\theta > 1$ .

This theorem generalizes the results of [1] where the case  $\lim_{j \rightarrow \infty} \theta_j = \theta$  was considered.

#### СПИСОК ЛИТЕРАТУРЫ

- [1] N.M. Ercolani, D. Ueltschi, “Cycle structure of random permutations with cycle weights”, *Random Structures Algorithms* **44**, no. 1 (2014), 109–133.

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объем тезисов не должен превышать области выше этой линии (за исключением сносок)

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