

## The probability of successful allocation of particles in cells (the general case)

Kayumov I., Chuprunov A.

*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

---

### Abstract

© 2015, Springer Science+Business Media New York. Let  $p_{nN}$  be the probability of successful allocation of  $n$  groups of particles in  $N$  cells with the following assumptions: (a) each group contains  $m$  particles and has allocation as a general allocation scheme; (b) each cell contains at most  $r$  particles from the same group; (c) events connected with different groups are independent. We obtain an asymptotically exact bound of  $p_{nN}$  as  $n, N \rightarrow \infty$  such that  $n/N$  is bounded. Applications to problems in error-correcting coding are considered.

<http://dx.doi.org/10.1007/s10958-015-2486-2>

---