1020-05-98   **Alexander Barvinok*** (`barvinok@umich.edu`), Department of Mathematics, East Hall, 530 Church Street, University of Michigan, Ann Arbor, MI 48109-1043. *Brunn-Minkowski inequalities for integer points in transportation polytopes.*

It turns out that certain functionals enumerating integer points in transportation polytopes are approximately log-concave. For example, the number of non-negative integer matrices (contingency tables) with prescribed row and column sums is approximately log-concave as a function of the vector of row and column sums, as long as the total sum remains fixed. Similarly, the number of integer feasible flows in a bipartite network is approximately log-concave as a function of the vector of demands/supplies, as long as the total demand/supply remains fixed. There are indications that some of the considered quantities (in particular, the number of contingency tables) are genuinely log-concave. (Received August 18, 2006)