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Alexey Glazyrin* (alexey.glazyrin@utb.edu), 80 Fort Brown, University of Texas at Brownsville, Department of Mathematics, Brownsville, TX 78520. *On simplicial dissections of simplotopes*. Preliminary report.

The talk is devoted to triangulations and simplicial dissections of polytopes without additional vertices. In 2009 we proved the theorem about volume invariants of simplicial dissections of prismoids. Applying this theorem we made a general construction of weighted volumes and, by choosing the proper matrix of parameters, proved the new asymptotic lower bound for the number of simplices in simplicial dissections of n -cubes: the number of simplices in such dissections is at least $(n + 1)^{\frac{n-1}{2}}$.

In this talk we are going to generalize the theorem about volume invariants and use it for constructing weighted volumes of simplotopes, i.e. direct sums of simplices. This construction allows us to find new lower bounds for simplicial dissections of simplotopes. (Received September 23, 2012)