1084-52-202 **Alexander E Litvak*** (aelitvak@gmail.com), Dept. of Math. and Stat. Sciences, Univ. of Alberta, Edmonton, AB T6G 1Z3, Canada, and **Mark Rudelson** and **Nicole Tomczak-Jaegermann**. *On projections of sections of a simplex.* Preliminary report.

We provide an affirmative answer to a problem posed by Barvinok and Veomett, showing that in general an n-dimensional convex body cannot be approximated by a projection of a section of a simplex of sub-exponential dimension. More precisely, we prove that for all $1 \le n \le N$ there exists an n-dimensional convex body B such that for every n-dimensional convex body K obtained as a projection of a section of an N-dimensional simplex one has

$$d(B,K) \ge c\sqrt{\frac{n}{\ln \frac{2N\ln(2N)}{n}}},$$

where $d(\cdot,\cdot)$ denotes the Banach-Mazur distance and c is an absolute positive constant. The result is sharp up to a logarithmic factor. (Received September 01, 2012)