1015-60-325 **Yehoram Gordon**, **Alexander Litvak**, **Carsten Schutt** and **Elisabeth Werner*** (emw2@cwru.edu). *On the minimum of several random variables.*

For a given sequence of real numbers $a_1, \ldots, a_n$ we denote the k-th smallest one by $k m_{1 \le i \le n} a_i$. Let $\mathcal{A}$ be a class of random variables satisfying certain distribution conditions (the class contains $N(0,1)$ Gaussian random variables). We show that there exist two absolute positive constants c and C such that for every sequence of real numbers $0 < x_1 \le \ldots \le x_n$ and every $k \le n$ one has

$$c \max_{1 \le j \le k} \frac{k+1-j}{\sum_{i=j}^{n} 1/x_i} \le \mathbb{E}\ k m_{1 \le i \le n} |x_i \xi_i| \le C \ln(k+1) \max_{1 \le j \le k} \frac{k+1-j}{\sum_{i=j}^{n} 1/x_i},$$

where $\xi_1, \ldots, \xi_n$ are independent random variables from the class $\mathcal{A}$. Moreover, if $k = 1$ then the left hand side estimate does not require independence of the ξ_i's. We provide similar estimates for the moments of $k m_{1 \le i \le n} |x_i \xi_i|$ as well. (Received February 08, 2006)