

**An extremal problem for central sections of a polydisc
in n - dimensional complex vector space
and a new inequality for Bessel functions**

K. Ball (1986) found sharp bounds for the $n - 1$ -dimensional volume of a central section of the cube $[-1/2, 1/2]^n$ in \mathbb{R}^n by a hyperplane of codimension 1. The complex counterpart of the problem reduces to a new (at least for us) inequality involving the Bessel function of order 1.

The proof uses techniques from probability, harmonic analysis, and hard analysis.

The recent results are taken from: K. Oleszkiewicz and A. Pełczyński, Polydisc slicing in \mathbb{C}^n , *Studia Math.* 142 (2000), 281-294.