

We report the progress in two-sided bounds for operator norms from ℓ_p to ℓ_q of structured Gaussian matrices in the case when $p^*, q \geq 2$. Guédon, Hinrichs, Litvak and Prochno conjectured that in this range an easy lower bound for the expected value of $p \rightarrow q$ norm may be reversed up to a multiplicative constant depending only on p and q . We confirm this conjecture in the ranges $p^*, q \in [2, 4)$ (covered in a previous talk) and $p^*, q > 2$. Moreover, in the missing boundary cases, when $p^* = 2$ and $q \geq 4$ (or, dually, when $q = 2$ and $4 \geq p^*$), we confirm the conjecture up to a factor of order $\log(\log(mn))$.

The talk will be a continuation of the talk given by Rafał Łatała on October 17th, 2024. We will recall all the necessary notation, previously known results, etc., so the talk will be accessible for everyone and there is no need to remember the content of the previous lecture.

(based on a joint work with Rafał Łatała)