

Exercises

11.38 [11K] Prerequisites: [11F]. Let's consider square matrices, i.e. $n = m$.

We know from [11F] that norms $\|A\|_{p,q}$ are submultiplicative, that is $\|AB\|_{p,q} \leq \|A\|_{p,q} \|B\|_{p,q}$.

Show that the Frobenious norm is also submultiplicative.

Note that for a submultiplicative norm we have that $\|A^k\| \leq \|A\|^k$ for every natural k .