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ON MEAN VALUES OF DIRICHLET POLYNOMIALS

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Abstract. We show the following general lower bound valid for any positive integer q, and arbitrary reals $\varphi_1,\dots,\varphi_N$ and non-negative reals $a_1,\dots,a_N$,

$$c_q\Big(\sum_{n=1}^{N} a_n^2\Big)^q \leqslant \frac{1}{2T}\int_{|t|\leqslant T}\Big|\sum_{n=1}^{N} a_n e^{it\varphi_n}\Big|^{2q} dt.$$

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