

ON MEAN VALUES OF FOURIER TRANSFORMS

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Abstract. We show that there exists a sequence $\{n_k, k \geq 1\}$ growing at least geometrically such that for any finite non-negative measure ν such that $\widehat{\nu} \geq 0$, any $T > 0$,

$$\int_{-2^{n_k}T}^{2^{n_k}T} \widehat{\nu}(x) dx \ll_{\varepsilon} T 2^{2^{(1+\varepsilon)n_k}} \int_{\mathbb{R}} \left| \frac{\sin xT}{xT} \right|^{n_k^2} \nu(dx).$$

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