Tariq M Qazi*, Department of Mathematics & Computer Science, Virginia State University, Petersburg, VA 23806. Mean value of entire functions of exponential type. Preliminary report.

Let $f$ be an entire function of exponential type $\tau$. From the Bernstein’s inequality, we know that $|f'(x)| \leq M\tau$ if $|f'(x)| \leq M$ on the real axis. The $p^{th}$ mean of $f$ on a horizontal line is defined by $M_p(x+iy) := \limsup_{T \to \infty} \left( \frac{1}{T} \int_{-T}^{T} |f(x+iy)|^p \, dx \right)$. Harvey [A. R. HARVEY, The mean of a function of exponential type, American Journal of Mathematics 70 (1948), 181–202] proved the analogue of Bernstein’s inequality for entire functions of exponential type with bounded mean. We will discuss the refinement of Harvey’s result for entire function of exponential type $f$ such that $f(z) \equiv e^{i\tau z} f(-z)$ under certain restriction on its zeros. (Received September 16, 2013)