1084-42-123 **Oleksandr (Alexander) V Tovstolis*** (atovstolis@math.okstate.edu), Department of Mathematics, Oklahoma State University, 401 Mathematical Sciences, Stillwater, OK 74078.
Fourier multipliers in Hardy spaces in tubes over open cones and inequalities for entire functions of exponential type.

Let $\mathcal{M}_{p,q}(T_\Gamma)$ be the class of Fourier multipliers from $H^p(T_\Gamma)$ to $H^q(T_\Gamma)$, $0 < p \leq q \leq 1$, in tubes over a regular cone $\Gamma \subset \mathbb{R}^n$. Several conditions for multipliers are obtained. Results like

Theorem 1 *Let $\varphi : \mathbb{R}^n \to \mathbb{C}$ be a continuous compactly supported radial function. If in some neighborhood of the origin, φ coincides with a continuous compactly supported function whose Fourier transform belongs to $L^q(\mathbb{R}^n)$, for some $q \in (0,1]$, then, with any $p \in (0,q]$, $\varphi \in \mathcal{M}_{p,q}(T_\Gamma)$ if and only if $\widehat{\varphi} \in L^q(\mathbb{R}^n)$.*

are applied to discovering the critical index for Bochner-Riesz means.
Inequalities for entire functions of exponential type belonging to H^p are obtained.

Theorem 2 (Bernstein-type inequality) *Let $p \in (0,\infty)$, and K be a symmetric body in $\mathbb{R}^n$. Then, for $f \in \mathcal{E}(K^*) \cap H^p(T_\Gamma)$ and a multi-index $k = (k_1, \ldots, k_n)$,*

$$\left\| \frac{\partial^{|k|} f}{\partial z_1^{k_1} \ldots \partial z_n^{k_n}} \right\|_{H^p} \leq (2\pi)^{|k|} \prod_{j=1}^{n} \sigma_j^{k_j} \|f\|_{H^p},$$

where $\sigma_j := \max_{t \in K \cap \Gamma^*} |t_j|$.

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