On multipliers of Fourier series in the Lorentz space

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Abstract: We study the multipliers of Fourier series on the Lorentz spaces, in particular, the sufficient conditions for a sequence of complex numbers $\{\lambda_k\}_{k\in Z}$ in order to make it a multiplier of trigonometric Fourier series of space $L_{p,r}[0;1]$ in the $L_{q,r}[0;1]$. In this work there is a new multipliers theorem which is supplement of the well-known theorems, and given a counterexample.

Keywords: Multiplier, Fourier series, Lizorkin theorem, Lorentz space

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