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On the Relation Between Fourier and Leont'ev Coefficients with Respect to the Space AC($\overline{\mathbf{D}}$)

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Abstract. Yu. I. Mel'nik showed in [5] that under certain conditions the Leont'ev coefficients $\kappa_f(\lambda)$ in the Dirichlet series

$$f \sim \sum_{\lambda \in \Lambda} \kappa_f(\lambda) \frac{e^{\lambda \cdot}}{L'(\lambda)}$$

of a function $f \in AC(\overline{D})$ are the Fourier coefficients of some continuous 2π-periodic function. He showed the relationship between the first moduli of smoothness of these two functions. In this article we will expand his results to moduli of arbitrary order.

Keywords. Dirichlet series, Fourier coefficients, Leont'ev coefficients.

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