

Akishev, Gabdolla; Persson, Lars-Erik; Singh, Harpal

Inequalities for the Fourier coefficients in unbounded orthogonal systems in generalized Lorentz spaces. (English) [Zbl 1479.42006](#)

Nonlinear Stud. 27, No. 4, 1137-1155 (2020).

Summary: This paper is an essential complement of the research recently presented in [*G. Akishev et al., J. Inequal. Appl.* 2019, Paper No. 171, 18 p. (2019; [Zbl 07459199](#)); *J. Inequal. Appl.* 2020, Paper No. 77, 12 p. (2020; [Zbl 07460852](#))]. A number of classical Fourier inequalities related to Fourier coefficients with respect to unbounded orthogonal systems are generalized and complemented. All results are given in the case of generalized Lorentz spaces.

MSC:

- [42A16](#) Fourier coefficients, Fourier series of functions with special properties, special Fourier series
- [42B05](#) Fourier series and coefficients in several variables
- [26D15](#) Inequalities for sums, series and integrals
- [26D20](#) Other analytical inequalities
- [46E30](#) Spaces of measurable functions (L^p -spaces, Orlicz spaces, Köthe function spaces, Lorentz spaces, rearrangement invariant spaces, ideal spaces, etc.)

Keywords:

inequalities; Fourier series; Fourier coefficients; unbounded orthogonal systems; Lorentz spaces

Full Text: [Link](#)