Mathematical
Inequalities
& Applications
Volume 5, Number 2 (2002), 263–269

ON THE SERIES OF HAAR–FOURIER COEFFICIENTS

L. LEINDLER

Abstract. Sufficient conditions are given for the convergence of the series

$$\sum_{n=1}^{\infty} \lambda(n)\varphi(|c_n|),$$

where c_n are the Haar–Fourier coefficients of an integrable function, $\varphi(x)$ $(x \geqslant 0,\ \varphi(0) = 0)$ is an increasing and concave function, and $\lambda(x)$ $(x \geqslant 1)$ denotes a function satisfying certain easily achievable conditions.

Mathematics subject classification (2000): 42A16, 42A28, 42C10.
Key words and phrases: Absolute convergence, Haar–system, power–monotone sequences, convave function.

REFERENCES

[1] Z. CIESIELSKI AND I. MUSIELAK, *On absolute convergence of Haar series*, Coll. Math. **7** (1959), 61–65.
[2] B. J. GOLUBOV, *On Fourier series of continious functions with respect to Haar system*, Izv. Akad. Nauk. SSSR Ser. Mat. **28** (1964), 1271–1296 (in Russian).
[3] L. LEINDLER, *Nicht verbesserbare Strukturbedingungen*, Studia Math. **26** (1966), 155–163.
[4] L. LEINDLER, *Comments on the absolute convergence of Fourier series*, Hokkaido Math. Journal **30** (2001), 221–230.
[5] N. OGATA, *On the absolute convergence of lacunary Fourier series*, Math. Japonica **49**(2) (1999), 241–245.
[6] P. L. ULYANOV, *On series with respect to Haar system*, Mat. Sb. **63** (1964), 356–391.
[7] A. ZYGMUND, *Trigonometric series*, I, Cambridge, 1959.

Paper MIA-05-29