

GENERALIZATION OF SOME THEOREMS ON CLASSES OF NUMERICAL SEQUENCES

JÓZSEF NÉMETH

Abstract. The theorem proved here is a generalization of some earlier results due to L. Leindler and to the present author regarding embedding relations among classes of Fourier coefficients.

Mathematics subject classification (2000): 26D15, 42A05, 42A10.

Key words and phrases: inequalities, embedding relations, Fourier coefficients.

REFERENCES

- [1] R. P. BOAS JR., *Integrability theorems for trigonometric transforms*, Springer-Verlag, Ergebnisse 38, Berlin, 1967.
- [2] G. A. FOMIN, *A class of trigonometric series*, Mat. Zametki **23** (1978), 213–222.
- [3] J. W. GARRETT AND Č. V. STANOJEVIČ, *Necessary and sufficient conditions for L^1 convergence of trigonometric series*, Proc. Amer. Math. Soc. **60** (1976), 68–71.
- [4] J. W. GARRETT, C. S. REES AND Č. V. STANOJEVIČ, *L^1 -convergence of Fourier series with bounded variation*, Proc. Amer. Math. Soc. **80** (1980), 423–430.
- [5] A. N. KOLMOGOROV, *Sur l'ordre de grandeur des coefficients de la série de Fourier-Lebesgue*, Bull. Acad. Polon. Sci. (A), Sci. Math. (1923), 83–86.
- [6] L. LEINDLER, *On the converses of inequality of Hardy and Littlewood*, Acta Sci. Math. (Szeged) **58** (1993), 191–196.
- [7] L. LEINDLER AND J. NÉMETH, *On the connection between quasi-monotonic and quasi geometrical sequences with application to integrability theorems for power series*, Acta Math. Hungar. **68** (1–2) (1995), 7–19.
- [8] L. LEINDLER, *On the equivalence of classes of Fourier coefficients*, Math. Inequal. Appl. **3** (2000), 45–50.
- [9] L. LEINDLER, *A note on some classes of real sequences*, Math. Inequal. Appl. **4** (2001), 53–58.
- [10] L. LEINDLER, *Classes of numerical sequences*, Math. Inequal. Appl. **4**(2001), 515–526.
- [11] M. MATELJEVIČ AND M. PAVLOVIČ, *L^p -behavior of power series with positive coefficients and Hardy spaces*, Proc. Amer. Math. Soc. **87** (1983), 309–316.
- [12] S. M. MAZHAR, *On generalized quasi-convex sequence and its application*, Indian J. Pure and Appl. Math. **8** (1977), 784–790.
- [13] J. NÉMETH, *A note on two theorems of Leindler*, Math. Inequal. Appl., **5** (2002), 225–233.
- [14] S. SIDON, *Hinreichende Bedingungen für den Fourier-character einer trigonometrischen Reihe*, J. London Math. Soc. **14** (1939), 158–160.
- [15] N. SINGH AND K. M. SHARMA, *Integrability of trigonometric series*, J. Indian Math. Soc. **49** (1985), 31–38.
- [16] Č. V. STANOJEVIČ, *Classes of L^1 -convergence of Fourier-Stieltjes series*, Proc. Amer. Math. Soc. **82** (1981), 209–215.
- [17] Č. V. STANOJEVIČ AND V. B. STANOJEVIČ, *Generalizations of the Sidon-Telyakovskii theorem*, Proc. Amer. Math. Soc. **101** (1987), 679–684.
- [18] S. A. TELYAKOVSKIĪ, *On a sufficient condition of Sidon for integrability of trigonometric series*, Mat. Zametki (Russian) **14** (1973), 317–328.

- [19] Ž. TOMOVSKI, *An application of the Hausdorff-Young inequality*, Math. Inequal. Appl. **1** (1998), 527–532.
- [20] Ž. TOMOVSKI, *A note on some classes of Fourier coefficients*, Math. Inequal. Appl. **2** (1999), 15–18.
- [21] S. Z. A. ZENEI, *Integrability of trigonometric series*, Tamkang J. Math. **21** (1990), 295–301.