

AN EMBEDDING THEOREM WITH MODIFIED AND RELAXED CONDITIONS

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Abstract. In this note we prove an embedding theorem on the interrelation between the class $W^r H_\beta^\omega$ and the class $H(\lambda, p, r, \omega)$, defined by strong means of Fourier series, continuing the recent investigations due to S. Tikhonov [5] and R. J. Le and S. P. Zhou [1].

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REFERENCES

- [1] R. J. LE AND S. P. ZHOU, *A note on strong approximation of Fourier series and embedding theorems*, Math. Ineq. and Appl., **11**, 4 (2008), 749–756.
- [2] L. LEINDLER, *Some inequalities of Hardy–Littlewood type*, Analysis Math., **20** (1994), 95–106.
- [3] L. LEINDLER, *Two Hardy–Bennett-type theorems*, Acta Math. Hungar., **85**, 3 (1999), 265–276.
- [4] L. LEINDLER, *A new class of numerical sequences and its applications to sine and cosine series*, Analysis Math., **28** (2002), 279–286.
- [5] S. TIKHONOV, *Strong approximation of Fourier series and embedding theorems*, Analysis Math., **31** (2005), 183–194.
- [6] S. P. ZHOU, P. ZHOU AND D. S. YU, *Ultimate generalization of monotonicity for uniform convergence of trigonometric series*, arXiv: math. CA/0611805 v1 November 27, 2006, preprint, it will appear in Science in China, Series A, in 2010.