

## GENERALIZED HILBERT OPERATORS ON WEIGHTED MORREY–HERZ SPACES

KUANG JICHANG

*Abstract.* This paper give some necessary and sufficient conditions for the generalized Hilbert operators to be bounded on the weighted Morrey–Herz spaces. The corresponding new operator norm inequalities are obtained.

*Mathematics subject classification (2010):* 26D10, 47A30.

*Keywords and phrases:* Hilbert operator, Morrey–Herz spaces, norm inequality.

### REFERENCES

- [1] G. H. HARDY, J. E. LITTLEWOOD AND G. POLYA, *Inequalities* (2<sup>rd</sup> ed), Cambridge University Press, London, 1952.
- [2] E. F. BECKENBACH AND R. BELLMAN, *Inequalities* (2<sup>ed</sup>), Springer-Verlag, New York, 1965.
- [3] KUANG JICHANG, *Applied Inequalities* (4<sup>rd</sup> ed), Shangdong Science Press, Jinan, 2010. (in Chinese)
- [4] YANG BICHENG, *The norm of operator and Hilbert-type inequalities*, Science Press, Beijing, 2009. (in Chinese)
- [5] CH. B. JR. MORREY, *On the solutions of quasi-linear elliptic partial differential equations*, Trans.Amer. Math.Soc. **43** (1938), 126–166.
- [6] C. S. HERZ, *Lipschitz spaces and Bernstein’s theorem on absolutely convergent Fourier transforms*, J. Math. Mech. **18** (1968/1969), 283–323.
- [7] S. Z. LU AND L. F. XU, *Boundedness of rough singular integral operators on the homogeneous Morrey–Herz spaces*, Hokkaido Math. J. **34** (2005), 299–314.
- [8] KUANG JICHANG, *Generalized Hilbert integral operators on the Herz spaces*, Tamkang J.Math. **40**, 2 (2009), 193–200.
- [9] KUANG JICHANG, *Weighted Morrey–Herz spaces and applications*, Applied Math.E-Notes **10** (2010), 159–166.
- [10] J. GARCÍA-CUERVA AND J.-L. RUBIO DE FRANCIA, *Weighted norm inequalities and related topics*, North-Holland Publishing, Amsterdam, 1985.
- [11] BICHENG YANG, *Hilbert-type integral inequalities*, Bentham Science Publishers Ltd, 2009.