WEIGHTED COMPOSITION OPERATOR FROM
BLOCH–TYPE SPACE TO H^∞ SPACE ON THE UNIT BALL

Xiaomin Tang and Ruojing Zhang

Abstract. In this paper, we characterize those holomorphic symbols u on the unit ball $\mathbb{B}$ and holomorphic self-mappings φ of $\mathbb{B}$ for which the weighted composition operator uC_φ is bounded or compact from Bloch-type space to H^∞ space.

Mathematics subject classification (2010): Primary 47B33; Secondary 47B38.
Keywords and phrases: Normal weight, Bloch-type space, H^∞ space, weighted composition operator.

REFERENCES

[1] R. YONEDA, *The composition operators on weighted Bloch space*, Arch. Math. **78** (2002), 310–317.

[2] X. M. TANG, *Extended Cesaro operators between Bloch-type spaces in the unit ball of C^n*, J. Math. Anal. Appl. **326** (2007), 1199–1211.

[3] C. COWEN, B. D. MACCLUER, *Composition operators on spaces of analytic functions*, CRC Press, Boca Raton, 1995.

[4] K. MADIGAN, A. MATHESON, *Compact composition operators on the Bloch space*, Trans. Amer. Math. Soc. **347** (1995), 2679–2687.

[5] S. OHNO, *Weighted composition operators between H^∞ and the Bloch space*, Taiwanese J. Math. **5** (2001), 555–563.

[6] S. STEVIĆ, *Composition operators between H^∞ and a-Bloch spaces on the polydisc*, Z. Anal. Anwend. **25**, 4 (2006), 457–466.

[7] S. X. LI, S. STEVIĆ, *Weighted composition operators from a-Bloch space to H^∞ on the polydisk*, Numer. Funct. Anal. Opt. **28**, 7 (2007), 911–925.

[8] S. X. LI, S. STEVIĆ, *Weighted composition operators from H^∞ to the Bloch space on the polydisc*, Abst. Appl. Anal. (2007), Art. ID48478, 12pp.

[9] S. X. LI, S. STEVIĆ, *Weighted composition operators between H^∞ and α-Bloch spaces in the unit ball*, Taiwanese J. Math. **12** (2008), 1625–1639.

[10] S. STEVIĆ, *On an integral-type operator from logarithmic Bloch-type and mixed-norm spaces to Bloch-type spaces*, Nonlinear Analysis **71** (2009), 6323–6343.

[11] X. J. ZHANG, *Remarks on spaces H^∞, β^p, and β_0^p on complex plane*, J. Math. Res. Expo. **24**, 4 (2004), 697–704.

[12] S. STEVIĆ, *Norm of weighted composition operators from Bloch space to H_μ^∞ on the unit ball*, Ars Combin. **88** (2008), 125–127.

[13] S. STEVIĆ, *Essential norms of weighted composition operators from the α-Bloch space to a weighted-type space on the unit ball*, Abstr. Appl. Anal. (2008), Art. ID279691, 11pp.

[14] S. STEVIĆ, *Norm of weighted composition operators from α-Bloch spaces to weighted-type spaces*, Appl. Math. Comput. **215**, 2 (2009), 818–820.

[15] S. STEVIĆ, *On a new integral-type operator from the Bloch space to Bloch-type spaces on the unit ball*, J. Math. Anal. Appl. **354**, 2 (2009), 426–434.

[16] X. M. TANG, Z. J. HU, *Weighted composition operators between μ-Bloch type spaces on the polydisc of $\mathbb{C}^n$*, J. Comput. Anal. Appl. **12**, 18 (2010), 207–221.

[17] S. STEVIĆ, R. Y. CHEN, Z. H. ZHOU, *Weighted composition operators between Bloch type spaces in the polydisc*, Sb. Math. **201**, 1-2 (2010), 289–319.

[18] Z. J. HU, S. S. WANG, *Composition operators on Bloch-type spaces*, Proc. Royal Soc. Edinbergh **135A** (2005), 1229–1239.

[19] Z. H. ZHOU, *Composition operators between p-Bloch space and q-Bloch space in the unit ball*, Progress in Natural Sci. **13**, 3 (2003), 233–236.

Mathematical Inequalities & Applications
www.ele-math.com
mia@ele-math.com