

GENERALIZED WEIGHTED COMPOSITION OPERATORS FROM BERS-TYPE SPACES INTO BLOCH-TYPE SPACES

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Abstract. New criteria for the boundedness and the compactness of the generalized weighted composition operators from Bers-type spaces into Bloch-type spaces are given in this paper.

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REFERENCES

- [1] F. COLONNA AND S. LI, *Weighted composition operators from the Besov spaces to the Bloch spaces*, Bull. Malaysian Math. Sci. Soc., to appear.
- [2] F. COLONNA AND S. LI, *Weighted composition operators from Hardy spaces into logarithmic Bloch spaces*, J. Funct. Spaces Appl., Vol. 2012, Article ID 454820, 20 pages.
- [3] C. C. COWEN AND B. D. MACCLUER, *Composition Operators on Spaces of Analytic Functions*, Studies in Advanced Mathematics, CRC Press, Boca Raton, 1995.
- [4] X. FU AND X. ZHU, *Weighted composition operators on some weighted spaces in the unit ball*, Abstr. Appl. Anal. **2008** (2008), Article ID 605807, 8 pages.
- [5] D. GU, *Weighted composition operators from generalized weighted Bergman spaces to weighted-type space*, J. Inequal. Appl. **2008** (2008), Article ID 619525, 14 pages.
- [6] W. HE AND L. JIANG, *Composition operator on Bers-type spaces*, Acta Math. Sci. **22B**, 3 (2002), 404–412.
- [7] R. A. HIBSCHWEILER AND N. PORTNOY, *Composition followed by differentiation between Bergman and Hardy spaces*, Rocky Mountain J. Math. **35**, 3 (2005), 843–855.
- [8] S. LI AND S. STEVIĆ, *Weighted composition operators from Bergman-type spaces into Bloch spaces*, Proc. Indian Acad. Sci. Math. Sci. **117** (2007), 371–385.
- [9] S. LI AND S. STEVIĆ, *Composition followed by differentiation between Bloch type spaces*, J. Comput. Anal. Appl. **9** (2007), 195–205.
- [10] S. LI AND S. STEVIĆ, *Generalized composition operators on Zygmund spaces and Bloch type spaces*, J. Math. Anal. Appl. **338** (2008), 1282–1295.
- [11] S. LI AND S. STEVIĆ, *Weighted composition operators from Zygmund spaces into Bloch spaces*, Appl. Math. Comput. **206**, 2 (2008), 825–831.
- [12] S. LI AND S. STEVIĆ, *Composition followed by differentiation from mixed-norm spaces to α -Bloch spaces*, Sb. Math. **199**, 12 (2008), 1847–1857.
- [13] S. LI AND S. STEVIĆ, *Composition followed by differentiation between H^∞ and α -Bloch spaces*, Houston J. Math. **35** (2009), 327–340.
- [14] Z. LOU, *Composition operators on Bloch type spaces*, Analysis (Munich) **23** (2003), 81–95.
- [15] K. MADIGAN AND A. MATHESON, *Compact composition operators on the Bloch space*, Trans. Amer. Math. Soc. **347** (1995), 2679–2687.
- [16] S. OHNO, K. STROETHOFF AND R. ZHAO, *Weighted composition operators between Bloch-type spaces*, Rocky Mountain J. Math. **33** (2003), 191–215.
- [17] S. STEVIĆ, *Weighted composition operators between mixed norm spaces and H_α^∞ spaces in the unit ball*, J. Inequal. Appl. **2007** (2007), Article ID 28629, 9 pages.

- [18] S. STEVIĆ, *Generalized composition operators between mixed norm space and some weighted spaces*, Numer. Funct. Anal. Optimization **29** (2008), 959–978.
- [19] S. STEVIĆ, *Norm and essential norm of composition followed by differentiation from α -Bloch spaces to H_{μ}^{∞}* , Appl. Math. Comput. **207** (2009), 225–229.
- [20] S. STEVIĆ, *Products of composition and differentiation operators on the weighted Bergman space*, Bull. Belg. Math. Soc. Simon Stevin **16** (2009), 623–635.
- [21] S. STEVIĆ, *Weighted differentiation composition operators from mixed-norm spaces to weighted-type spaces*, Appl. Math. Comput. **211** (2009), 222–233.
- [22] S. STEVIĆ, *Weighted differentiation composition operators from mixed-norm spaces to the n th weighted-type space on the unit disk*, Abstr. Appl. Anal. **2010** (2010), Article ID 246287, 15 pages.
- [23] S. STEVIĆ, *Weighted iterated radial composition operators between some spaces of holomorphic functions on the unit ball*, Abstr. Appl. Anal. **2010** (2010), Article ID 801264, 14 pages.
- [24] S. STEVIĆ, *Composition followed by differentiation from H^{∞} and the Bloch space to n th weighted-type spaces on the unit disk*, Appl. Math. Comput. **216** (2010), 3450–3458.
- [25] S. STEVIĆ, *Weighted differentiation composition operators from H^{∞} and Bloch spaces to n th weighted-type spaces on the unit disk*, Appl. Math. Comput. **216** (2010), 3634–3641.
- [26] S. STEVIĆ, *On a product-type operator from Bloch spaces to weighted-type spaces on the unit ball*, Appl. Math. Comput. **217** (2011), 5930–5935.
- [27] S. STEVIĆ, *Characterizations of composition followed by differentiation between Bloch-type spaces*, Appl. Math. Comput. **218** (2011), 4312–4316.
- [28] S. STEVIĆ AND A. K. SHARMA, *Iterated differentiation followed by composition from Bloch-type spaces to weighted BMOA spaces*, Appl. Math. Comput. **218** (2011), 3574–3580.
- [29] S. STEVIĆ, A. K. SHARMA AND A. BHAT, *Essential norm of products of multiplication composition and differentiation operators on weighted Bergman spaces*, Appl. Math. Comput. **218** (2011), 2386–2397.
- [30] M. WANG AND Y. LIU, *Weighted composition operator between Bers-type spaces*, Acta Math Sci **27A**, 4 (2007), 665–671.
- [31] Y. WU AND H. WULAN, *Products of differentiation and composition operators on the Bloch space*, Collect. Math. **63** (2012), 93–107.
- [32] W. YANG, *Weighted composition operators from Bloch-type spaces to weighted-type spaces*, Ars Combin. **92** (2009), 415–423.
- [33] W. YANG, *Products of composition and differentiation operators from $\mathcal{Q}_K(p, q)$ spaces to Bloch-type spaces*, Abstr. Appl. Anal. **2009** (2009), Article ID 741920, 14 pages.
- [34] K. ZHU, *Bloch type spaces of analytic functions*, Rocky Mountain J. Math. **23**, 3 (1993), 1143–1177.
- [35] X. ZHU, *Products of differentiation, composition and multiplication from Bergman type spaces to Bers type space*, Integr. Tran. Spec. Funct. **18**, 3 (2007), 223–271.
- [36] X. ZHU, *Generalized weighted composition operators from Bloch-type spaces to weighted Bergman spaces*, Indian J. Math. **49** (2007), 139–149.
- [37] X. ZHU, *Generalized weighted composition operators on weighted Bergman spaces*, Numer. Funct. Anal. Opt. **30** (2009), 881–893.
- [38] X. ZHU, *Weighted composition operators from $F(p, q, s)$ spaces to H_{μ}^{∞} spaces*, Abstr. Appl. Anal. **2009** (2009), Article ID 290978, 12 pages.
- [39] X. ZHU, *Generalized weighted composition operators on Bloch-type spaces*, Ars Combin., to appear.