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ESSENTIAL NORM OF THE DIFFERENCES OF COMPOSITION OPERATORS ON THE BLOCH SPACE

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Abstract. We provide some estimates for the essential norm of the differences of composition operators $C_\varphi - C_\psi$ acting on the Bloch space by using pseudo-hyperbolic distance, Möbius transformation and $\varphi^n - \psi^n$.

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REFERENCES

[1] E. BERKSON, *Composition operators isolated in the uniform operator topology*, Proc. Amer. Math. Soc. **81** (2) (1981), 230–232.
[2] C. COWEN AND B. MACCLUER, *Composition Operators on Spaces of Analytic Functions*, CRC Press, Boca Raton, FL, 1995.
[3] T. HOSOKAWA AND S. OHNO, *Differences of composition operators on the Bloch spaces*, J. Operator Theory **57** (2007), 229–242.
[4] S. LI, *Differences of generalized composition operators on the Bloch space*, J. Math. Anal. Appl. **394** (2012), 706–711.
[5] M. LINDSTRÖM AND E. WOLF, *Essential norm of the difference of weighted composition operators*, Monatsh. Math. **153** (2008), 133–143.
[6] K. MADIGAN AND A. MATHESON, *Compact composition operators on the Bloch space*, Trans. Amer. Math. Soc. **347** (1995), 2679–2687.
[7] A. MONTES-RODRÍGUEZ, *The essential norm of a composition operator on Bloch spaces*, Pacific J. Math. **188** (1999), 339–351.
[8] P. NIEMINEN, *Compact differences of composition operators on Bloch and Lipschitz spaces*, Comput. Method Funct. Theory **7** (2007), 325–344.
[9] J. SHAPIRO AND C. SUNDBERG, *Isolation amongst the composition operators*, Pacific J. Math. **145** (1990), 117–152.
[10] M. TJANI, *Compact composition operators on some Möbius invariant Banach space*, PhD dissertation, Michigan State University, 1996.
[11] M. TJANI, *Compact composition operators on Besov spaces*, Trans. Amer. Math. Soc. **355** (2003), 4683–4698.
[12] H. WULAN, D. ZHENG AND K. ZHU, *Compact composition operators on BMOA and the Bloch space*, Proc. Amer. Math. Soc. **137** (2009), 3861–3868.
[13] K. YANG AND Z. ZHOU, *Essential norm of the difference of composition operators on Bloch space*, Czech. Math. J. **60** (2010), 1139–1152.
[14] R. ZHAO, *Essential norms of composition operators between Bloch type spaces*, Proc. Amer. Math. Soc. **138** (2010), 2537–2546.
[15] K. ZHU, *Operator Theory in Function Spaces*, American Mathematical Society, Providence, RI, 2007.

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