1064-32-343
Florian Bertrand (bertrand@math.wisc.edu), Department of Mathematics, University of Wisconsin, Madison, WI 53706, Xianghong Gong*, Department of Mathematics, University of Wisconsin-Madison, Madison, WI 53706, and Jean-Pierre Rosay (gong@math.wisc.edu), Department of Mathematics, University of Wisconsin-Madison, Madison, WI 53706. Common boundary values of holomorphic functions for two-sided complex structures.

Let Ω_1, Ω_2 be two disjoint open sets in \mathbb{C}^n whose boundaries share a smooth real hypersurface M as relatively open subsets. Assume that Ω_i is equipped with a complex structure J^i which is smooth up to M. Assume that the operator norm $\|J^2 - J^1\|$ is less than 2 on M. Let f be a continuous function on the union of Ω_1, Ω_2, M . If f is holomorphic with respect to both structures in the open sets, then f must be smooth on the union of Ω_1 with M. Although the result as stated is far more meaningful for integrable structures, our methods make it much more natural to deal with the general almost complex structures without the integrability condition. The result is therefore proved in the framework of almost complex structures. (Received September 14, 2010)