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Phillip S. Harrington* (pharring@usd.edu), 414 East Clark Street, Vermillion, SD 57069. *L^2 solvability for the $\bar{\partial}_b$ operator on non-smooth domains.* Preliminary report.

To establish L^2 solvability for the $\bar{\partial}_b$ operator on the boundary of a pseudoconvex domain Ω in \mathbb{C}^n ($n \geq 3$), it suffices to show that there exists a weighted $\bar{\partial}$ -Neumann operator that is exactly regular in the Sobolev space $W^{\frac{1}{2}}(\Omega)$. If the boundary of Ω is smooth, this is always possible. However, the methods used in the smooth case are problematic if the boundary of Ω is not at least C^3 . We will discuss the possibility of using weighted operators in the non-smooth case, focusing on domains with C^2 or Lipschitz boundaries. (Received January 12, 2007)