1031-32-45   **Andrew S Raich*** (`araich@math.tamu.edu`), Department of Mathematics, Mailstop 3368, Texas A&M University, College Station, TX 77843-3368, and **Emil J. Straube** (`straube@math.tamu.edu`), Department of Mathematics, Mailstop 3368, Texas A&M University, College Station, TX 77843-3368. *Compactness of the complex Green operator II.*

This talk is the second of two (the first to be given by E. Straube) that discuss the following results. Let $\Omega \subset \mathbb{C}^n$ be a bounded smooth pseudoconvex domain. We show that compactness of the complex Green operator G_q on $(0,q)$-forms on $b\Omega$ implies compactness of the $\overline{\partial}$-Neumann operator N_q on Ω. We prove that if $1 \leq q \leq (n-2)$ and $b\Omega$ satisfies (P_q) and (P_{n-q-1}), then G_q is a compact operator (and so is G_{n-1-q}). Our method relies on a jump type formula to represent forms on the boundary, and we prove an auxiliary compactness result for an 'annulus' between two pseudoconvex domains. Our results, combined with the known characterization of compactness in the $\overline{\partial}$-Neumann problem on locally convexifiable domains, yield the corresponding characterization of compactness of the complex Green operator(s) on these domains. (Received July 29, 2007)

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