1037-32-255   **Samangi Munasinghe*** (`smunasin@uark.edu`), Department of Mathematical Sciences, University of Arkansas, Fayetteville, AR 72701, and **Emil J. Straube**. *Geometric sufficient conditions for compactness of the $\overline{\partial}$-Neumann operator.*

We give geometric sufficient conditions for compactness of the $\overline{\partial}$-Neumann operator for domains in $\mathbb{C}^n$. For domains in $\mathbb{C}^2$, Straube found simple geometric conditions that imply compactness of the $\overline{\partial}$-Neumann operator. Our theorem is a generalization of Straube's theorem to higher dimensions. Recently Straube and Raich studied the relationship between the $\overline{\partial}$-Neumann operator and the complex Green operator associated with the $\overline{\partial}_b$ problem. We are currently investigating whether similar geometric conditions would be sufficient for compactness of the complex Green operator as well. This is joint work with Emil J. Straube. (Received February 04, 2008)