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Gerardo A. Mendoza* (`gmendoza@temple.edu`), Department of Mathematics, Temple University, Philadelphia, PA 19122. *The b-Dolbeault complex.* Preliminary report.

Let M be the closure of a smooth bounded domain in a complex manifold. There is an involutive subbundle V of $\mathbb{C}^b TM$ whose sections are sections of $T^{0,1}M$ thus giving a complex of b-operators on sections of the exterior powers of V^* closely related to the Dolbeault complex. While this is not a b-elliptic complex, it can be analyzed using techniques developed for b-elliptic operators. This gives a perspective of the classical Dolbeault complex from the point of view of the b-philosophy. (Received February 25, 2007)