1067-32-538 **Serban Costea** and **Eric T. Sawyer** (sawyer@mcmaster.ca), McMaster University, Department of Mathematics and Statistics, 1280 Main Street West, Hamilton, ON L8S 4K1, Canada, and **Brett D. Wick*** (wick@math.gatech.edu), Georgia Institute of Technology, School of Mathematics, 686 Cherry Street, Atlanta, GA. *BMO Estimates for the $H^\infty(\mathbb{B}_n)$ Corona Problem.*

We study the $H^\infty(\mathbb{B}_n)$ Corona problem $\sum_{j=1}^N f_j g_j = h$ and show it is always possible to find solutions f that belong to $BMOA(\mathbb{B}_n)$ for any $n > 1$, including infinitely many generators N. Our method of proof is to solve $\overline{\partial}$-problems and to exploit the connection between BMO functions and Carleson measures for $H^2(\mathbb{B}_n)$. Key to this is the exact structure of the kernels that solve the $\overline{\partial}$ equation for $(0,q)$ forms, as well as new estimates for iterates of these operators. A generalization to multiplier algebras of Besov-Sobolev spaces is also given. (Received September 08, 2010)