1037-32-132 **Phillip S. Harrington*** (Phil.Harrington@usd.edu), University of South Dakota, 414 East Clark Street, Vermillion, SD 57069. *Sobolev Estimates for the Cauchy-Riemann Complex on C^1 Pseudoconvex Domains.*

Let $\Omega \subset \mathbb{C}^n$, $n \geq 2$. If Ω is bounded and pseudoconvex, then Hörmander's classic result shows that the inhomogeneous Cauchy-Riemann equation $\overline{\partial} u = f$ has a solution $u \in L^2_{(0,q)}(\Omega)$ whenever $f \in L^2_{(0,q+1)}(\Omega)$ is $\overline{\partial}$-closed and $0 \leq q \leq n-1$. If f is in the L^2-Sobolev space W^s, we wish to show that a solution u can be found which is also in W^s. Berndtsson and Charpentier have shown that this is possible for some small $s > 0$ if Ω has a Lipschitz boundary and admits a Hölder continuous plurisubharmonic exhaustion function. In this talk, we will show that on C^1 pseudoconvex domains the inhomogeneous Cauchy-Riemann equations can be solved in W^s for all $0 \leq s < \frac{1}{2}$ by using Hölder continuous exhaustion functions which fail to be plurisubharmonic, but still admit good lower bounds on the complex hessian. (Received January 29, 2008)