1062-32-100 **Imre Patyi*** (matixp@langate.gsu.edu), Department of Mathematics, Georgia State University, 30 Pryor St, Atlanta, GA 30303-3083. *On pseudoconvex neighborhoods in a Banach space.*

We show that if X is a separable complex Banach space, $X_0 \subset X$ is a closed complex linear subspace (complemented or not), $\Omega_0 \subset X_0$ is a (relatively) open convex subset of X_0, and $U \subset X$ is open in the ambient space with $\Omega_0 \subset U$, then there is a pseudoconvex open subset $\Omega \subset X$ in the ambient space with $\Omega_0 \subset \Omega \subset U$. We apply this to show that the ambient cohomology groups $H^q(\Omega_0, {}_X\mathcal{O})$ vanish for $q \geq 1$, where ${}_X\mathcal{O}$ is the sheaf cohomology group of holomorphic cocycles defined in open neighborhoods of Ω_0 in the ambient space. (Received July 30, 2010)