

For Banach space X and n -dimensional subspace $V_n \subset X$, let $\mathcal{P} = \mathcal{P}(X, V_n)$ denote the space of *projections* from X onto V_n . For fixed basis $[v_1, v_2, \dots, v_n] = V_n$, every $P \in \mathcal{P}$ can be expressed $P = \sum_{i=1}^n u_i \otimes v_i$ for some $u_1, u_2, \dots, u_n \in X^*$. We say P_0 is *minimal* if $\|P_0\| \leq \|P\|$ for all $P \in \mathcal{P}$. In the case $X = L^p[-1, 1]$, $1 \leq p < \infty$ and V_n is a differentiable subspace of X , the (so-called) Chalmers' equation is a system of differential equations, whose solution (in the appropriate setting) yields necessary conditions for functionals $u_1, u_2, \dots, u_n \in X^*$ in order that $P = \sum_{i=1}^n u_i \otimes v_i$ be minimal. When $V_2 = [1, t]$ (the lines in X), we can employ Chalmers' equation (together with additional considerations) to obtain an explicit formula for a minimal projection $L^p[-1, 1]$ onto V_2 .