

# Minimal projections onto hyperplanes in vector-valued sequence spaces.

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## Abstract

Let  $\mathcal{P}(X, V)$  denote the set of all linear, continuous projections from a Banach space  $X$  onto its linear subspace  $V$ . An element  $P_o \in \mathcal{P}(X, V)$  is called a *minimal projection* if

$$\|P_o\| = \lambda(V, X) := \inf\{\|P\| : P \in \mathcal{P}(X, V)\}.$$

In this talk we present lower bounds for the norms of minimal projections onto hyperplanes in vector-valued sequence spaces  $c_0(\{X_n\}_{n \in \mathbb{N}})$  and  $l_1(\{X_n\}_{n \in \mathbb{N}})$ . Based on these lower bounds, we prove the general theorem characterizing norm-one projections onto hyperplanes in the case of  $c_0(\{X_n\}_{n \in \mathbb{N}})$ . We also provide some partial result for projections of norm one in  $l_1(\{X_n\}_{n \in \mathbb{N}})$ . Moreover some applications of these results will be given. The presented results extend the results obtained for classical  $c_0$  and  $l_1$  sequence spaces in [J. Blatter, E.W. Cheney, *Minimal projections onto hyperplanes in sequence spaces*, Ann. Mat. Pura Appl 101 (1974) 215-227].

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