1067-46-1015 **Fernanda Botelho** and **Richard J. Fleming*** (`flemi1rj@cmich.edu`), 615 N. Lansing, Mt. Pleasant, MI 48858, and **James E. Jamison**. *Extreme points and isometries on vector-valued Lipschitz spaces.*

For a Banach space E and a compact metric space (X, d), a function $F : X \to E$ is a Lipschitz function if there exists $k > 0$ such that

$$\|F(x) - F(y)\| \leq kd(x, y) \text{ for all } x, y \in X.$$

The smallest such k is called the Lipschitz constant $L(F)$ for F. The space $\mathrm{Lip}(X, E)$ of all Lipschitz functions from X to E is a Banach space under the norm defined by

$$\|F\| = \max\{L(F), \|F\|_\infty\},$$

where $\|F\|_\infty = \sup\{\|F(x)\| : x \in X\}$.

Recent results characterizing isometries on these vector-valued Lipschitz spaces require the Banach space E to be strictly convex. We investigate the nature of the extreme points of the dual ball for $\mathrm{Lip}(X, E)$ and use the information to describe the surjective isometries on $\mathrm{Lip}(X, E)$ under certain conditions on E, where E is not assumed to be strictly convex. We make use of an embedding of $Lip(X, E)$ into a space of continuous vector-valued functions on a certain compact set. (Received September 17, 2010)