Now we assume that $|x_1| < \sup\{|x_n| : n \geq 2\}$. We set $\sup\{|x_n| : n \geq 2\} = a$. We take

$$y = \left(a, \frac{x_1 x_2}{a}, \dots, \frac{x_1 x_n}{a}, \dots\right), \qquad y \in c_0.$$

Then $y \pm x \in E_+$ and $\|y\| = \sup\{a, |x_1 x_n|/a : n \geq 2\} = \sup\{a, |x_1|\} = \|x\|$. We write

$$Y = \{y \in E_+ : y \geq \pm x, \|y\| = \|x\|\}.$$

Let $y = (y_1, \dots, y_n, \dots) \geq \pm(x_1, \dots, x_n)$ and $\|y\| = \|x\|$. Then $y = (a, y_2, \dots, y_n, \dots)$, where

$$\max\{-a - x_1 - x_i, -a + x_1 + x_i\} \leq y_i \leq \min\{a + x_1 - x_i, a - x_1 + x_i\}, \qquad i = 2, \dots .$$

In this case,

$$X_+ = \frac{1}{2}x + \frac{1}{2}Y \qquad \text{and} \qquad X_- = \frac{1}{2}Y - \frac{1}{2}x.$$

All elements of X_+ have the norm $(a+x_1)/2$ and all elements of X_- have the norm $(a-x_1)/2$; moreover, $d(x, E_+) = (a - x_1)/2$. For example, if $x = (1, 2, 4, 0, \dots, 0, \dots)$, then $Y = \{(4, y_2, y_3, \dots, y_n, \dots) : \lim y_n = 0\}$, where $-1 \leq y_2 \leq 3$, $y_3 = 1$, and $-3 \leq y_n \leq 3$, $n = 4, 5, \dots$. Here we have

$$X_+ = \left\{\left(\frac{5}{2}, 1 + z_2, \frac{5}{2}, z_4, \dots, z_n\right) : \frac{1}{2} \leq z_2 \leq \frac{3}{3}, |z_n| \leq \frac{3}{2}, \ n = 4, \dots, \ \lim_{n\to\infty} z_n = 0\right\},$$

$$X_- = \left\{\left(\frac{3}{2}, u_2 - 1, -\frac{3}{2}, u_4, \dots, u_n, \dots\right) : \frac{1}{2} \leq u_2 \leq \frac{3}{2}, |u_n| \leq \frac{3}{2}, \ n = 4, \dots, \ \lim_{n\to\infty} u_n = 0\right\},$$

and $d(x, E_+) = 3/2$. Note that for any $x_+ \in X_+$ and for $x_- = x_+ - x$, we have

$$\frac{5 + 3t}{2} = \|x_+ + tx_-\| = \|x_+ - tx_-\| \qquad \forall t \in \mathbb{R}_+.$$

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Erratum

To the article "Counterexamples to the Trotter Formula in Locally Convex Spaces," by A. G. Tokarev [*Mathematical Notes*, 59, No. 6, 689–692 (1996)].

The term "locally convex" was inadvertantly translated as "locally compact" both in the title of the article and twice in the text (Corollary 1 and the proof of Corollary 2).