ERRATUM TO "A MAXIMAL REALCOMPACTIFICATION WITH 0-DIMENSIONAL OUTGROWTH"

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The proof of the only if direction in Theorem 1 of this paper (Proc. Amer. Math. Soc. 51 (1975), 441–447) is incomplete. Here is an amended proof.

In [Sk, Corollary to Lemma 1], it is noted that if for an open set S of X, we let $\operatorname{Ex}_{\beta X} S = \beta X - \operatorname{cl}_{\beta X}(X - S)$, then $\partial_{\beta X} \operatorname{Ex}_{\beta X} S = \operatorname{cl}_{\beta X} \partial_X S$. If we let $\operatorname{Ex}_{\delta} S = \delta X \cap \operatorname{Ex}_{\beta X} S = \delta X - \operatorname{cl}_{\delta X}(X - S)$, then Skljarenko's result becomes

LEMMA. For any open $S \subseteq X$, $\partial_{\delta X} \operatorname{Ex}_{\delta} S = \operatorname{cl}_{\delta X} \partial_X S$.

Now assume X to be rimhard, let U be any nonempty open subset of δX and $p \in U$. If $p \notin X$, then δX is locally compact at p [R, Lemma 6], and the result follows.

If $p \in U \cap X$, let $B = \operatorname{Ex}_{\delta}(U \cap X) - U$. Then $B \cap U = \emptyset$, so $p \notin \operatorname{cl}_{\delta X} B$. By regularity, there is a δX -open G with $p \in G \subseteq \operatorname{cl}_{\delta X} G \subseteq \delta X - \operatorname{cl}_{\delta X} B$. Let $W = G \cap U \cap X$, an X-open neighborhood of p. Since $\operatorname{cl}_{\delta X} W \subseteq \operatorname{cl}_{\delta X} G \subseteq \delta X - \operatorname{cl}_{\delta X} B$, we have $\operatorname{cl}_{\delta X} B \subseteq \operatorname{cl}_{\delta X}(X - W)$. Hence $\operatorname{Ex}_{\delta} W \subseteq U$. By hypothesis, there is an X-open S with $p \in S \subseteq W$ and $\partial_X S$ hard in X. Clearly $\operatorname{Ex}_{\delta} S \subseteq \operatorname{Ex}_{\delta} W \subseteq U$. By the lemma, $\partial_{\delta X} \operatorname{Ex}_{\delta} S = \operatorname{cl}_{\delta X} \partial_X S$, compact.

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