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Monique A. Peters* (momolove67@yahoo.com). *More differences between the right and left topological extensions of a semigroup operation to βS .* Preliminary report.

If S is a semigroup, the operation can be extended to its Stone-Ćech compactification βS so that it becomes a right topological semigroup with S contained in its topological center. It can also be extended so that βS becomes a left topological semigroup. Denote by \cdot the first of these extensions and by \odot the second. If S is commutative, one simply gets that $p \cdot q = q \odot p$ for all $p, q \in \beta S$. In particular, the smallest two sided ideals are identical. Previous research has shown that if S is the free semigroup on 2 or countably many generators, the operations can be very different. In particular the smallest two sided ideals can be disjoint. In general βS contains a closed two sided ideal $J(S)$ with the following property: A subset A of S satisfies the conclusion of the Central Sets Theorem if and only if there is an idempotent in $J(S) \cap clA$. We show that if S is the free semigroup on countably many generators, $J(S, \cdot)$ and $J(S, \odot)$ are not equal. (Received September 10, 2012)