Hernández, Julio C.; Hofmann, Karl H.
A note on locally compact subsemigroups of compact groups. (English) Zbl 07365265 Semigroup Forum 103, No. 1, 291-294 (2021)

Summary: An elementary proof is given for the fact that every locally compact subsemigroup of a compact topological group is a closed subgroup. A sample consequence is that every commutative cancellative pseudocompact locally compact Hausdorff topological semigroup with open shifts is a compact topological group.

MSC:
22A25 Representations of general topological groups and semigroups
20M10 General structure theory for semigroups
22C05 Compact groups
54B30 Categorical methods in general topology
54H10 Topological representations of algebraic systems

Keywords:
topological semigroup; compact group; cancellative semigroup; precompact; pseudocompact

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References:

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