102. On a Conjecture of K. Nagami

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In his paper, "On the dimension of paracompact Hausdorff spaces", Nagoya Math. Jour., 8, 70–71 (1954), Prof. K. Nagami proposed the following question: *Is every completely paracompact Hausdorff space necessarily perfectly normal?* In this Note, we shall show that the answer to this question is in negative.

A topological space S is called completely paracompact, if every subset of S is a paracompact space.

Let S be the set of points of the straight line plus an ideal point (∞). Each point of $S-(\infty)$ is open and closed. Any neighbourhood of (∞) is a subset of S obtained by removing an arbitrary finite set from $S-(\infty)$. Such a space S is completely paracompact Hausdorff space. The point (∞) is closed and is not a countable product of open sets by $\overline{\overline{S}} > \aleph_0$. Therefore S is not perfectly normal. Consequently S has the properties desired.