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## **A countable, dense-in-itself dense $P$ -set**

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In 1998, during the Topology Conference in Gyula, A.V. Arhangel'skii asked the following question:

*Does there exist a compact separable space without isolated points,  
whose countable dense subset is a  $P$ -set?*

We shall present a ZFC example with the required properties. The main tool for the construction is the familiar Hechler poset for adding a dominating real.