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Valentina Harizanov* (harizanv@gwu.edu), Department of Mathematics, George Washington University, Washington, DC 20052. *Application of computability theory to a problem in topology*. Preliminary report.

The set of all infinite paths through a computable binary tree is an effectively closed set. These sets have been extensively studied in computability theory. Many important problems in computable mathematics can be viewed as problems about effectively closed sets. We will show how computability-theoretic complexity of members of effectively closed sets can be used to establish that the spaces of orders on countable orderable groups, both abelian and nonabelian, are homeomorphic to the Cantor set. (Received February 18, 2013)