# DOMAIN THEORETIC APPROACH TO CAUSAL STRUCTURE ON A SPACE-TIME MANIFOLD

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## Abstract

Domain theory [1] studies partially ordered sets called domains having order theoretic notions of completeness and approximations. Domain theory formalizes the intuitive ideas of approximation and convergence in a general way and has close relations to topology. As the concepts in domain theory are related to causal structure of space-time and also to space-time topologies, we study some topologies related to causal structure on a space-time manifold using the ideas from domain theory and discuss the order theoretic approach [5 , 6] in the context of K-causality [8].

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Key Words: Domain theory, Space-time topologies, Causal structures.