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Topology on ordered fields

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Abstract: An ordered field is a field which has a linear order and the order topology by this order. For a subfield F of an ordered field, we give characterizations for F to be Dedekind-complete or Archimedean in terms of the order topology and the subspace topology on F.

Keywords: order topology, subspace topology, ordered field, Archimedes' axiom, axiom of continuity
AMS Subject Classification: 54A10, 54F05, 12J15

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