

Topology of Hilbert Cube Manifolds

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Abstract

Hilbert cube manifolds, or Q -manifolds, are infinite dimensional spaces modeled on the Hilbert cube Q , the countable infinite product of unit intervals with the product topology. The Hilbert cube and Q -manifolds are fascinating geometric objects. For example:

1. The Hilbert cube is homogeneous. In particular, there is no topological distinction between an “interior point and a “boundary point.
2. Any Q -manifold M is homeomorphic to $M \times Q$.
3. Every ANR is a Q -manifold factor.

These and other properties of the Hilbert cube and Q -manifolds will be presented. This lecture series is largely based on Chapman's *Lectures on Hilbert Cube Manifolds*.

- Lecture 1: The homogeneity of Q
- Lecture 2: A toolkit of results
- Lecture 3: Z -sets in Q , Part I
- Lecture 4: Z -sets in Q , Part II
- Lecture 5: Stability of Q -manifolds
- Lecture 6: Z -sets in Q -manifolds, Part I
- Lecture 7: Z -sets in Q -manifolds, Part II
- Lecture 8: Cell-like mappings, Part I
- Lecture 9: Cell-like mappings, Part II
- Lecture 10: The ANR Theorem, Part I
- Lecture 11: The ANR Theorem, Part II