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Abstracts of Plenary and Invited Lectures

Section:

6. Topology

1991 MS Classification: 20, 53, 54, 55
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Dimension theory and large Riemannian manifolds

Dimension theory of compacta has a counterpart in coarse geometry. M. Gromov defined the notion of asymptotic dimension of a metric space and showed that hyperbolic groups have this dimension finite. Using Roe's version of the descent principle, G. Yu proved that the asymtotical finite dimensionality implies the Novikov conjecture for geometrically finite groups. This finite dimensionality problem in coarse geometry turns out to be quite parallel to the Alexandroff problem from the classical dimension theory. A connection between large scale dimension of metric spaces and covering dimension of Higson corona will be presented.