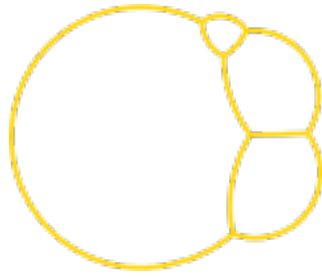Contribution ID: **99**   Type: **not specified**

Lecture 5. Sharp differential inequality for the isoperimetric profile on noncollapsed spaces with lower Ricci bounds, and sharp and rigid isoperimetric inequality for nonnegatively curved spaces

Thursday, 23 June 2022 09:30 (50 minutes)

In this talk we will explore two consequences of the results explained in the previous lectures.

First, we shall prove a sharp differential inequality for the isoperimetric profile of N-dimensional RCD(K,N) spaces with uniform lower bounds on the volume of unit balls. This inequality is new even in the smooth noncompact setting. We will discuss some consequences of this inequality.

Second, we shall give a new proof of the sharp isoperimetric inequality in the setting of N-dimensional RCD(0,N) spaces with Euclidean volume growth. We show that the equality case is reached precisely by balls around the tips of N-dimensional Euclidean metric measure cones. For the rigidity part we ask no regularity on the boundary, and this is new even in the smooth case.

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