

# ONE DIMENSIONAL WEIGHTED RICCI CURVATURE AND COMPARISON THEOREMS OF MANIFOLDS WITH BOUNDARY

YOHEI SAKURAI (UNIVERSITY OF BONN)

The weighted Ricci curvature is a generalization of the Ricci curvature, and it controls geometric behavior of weighted Riemannian manifolds. The weighted Ricci curvature includes a parameter  $N$  called the effective dimension. On an  $n$ -dimensional weighted Riemannian manifold ( $n \geq 2$ ), the parameter  $N$  has been usually chosen from  $[n, \infty]$ . On the other hand, recently, in the complementary case of  $N \in (-\infty, n)$ , various geometric properties have begun to be studied.

In this talk, I talk about the complementary case of  $N \in (-\infty, n)$ , especially  $N = 1$ . I consider a curvature condition in which the weighted Ricci curvature is bounded from below by the density function. Under the curvature condition, I formulate some comparison theorems and rigidity theorems for weighted Riemannian manifolds with boundary.