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Dong Youp Suh* (dysuh@math.kaist.ac.kr), Department of Mathematical Sciences, KAIST, 229 Daehakro, Yuseong-gu, Daejeon, 305-701, South Korea, and **Suyoung Choi** and **Seonjeong Park**. *Classification of quasitoric manifolds with the second Betti numbers equal to 2 and cohomological rigidity problem.*

In this talk we classify all quasitoric manifolds with the second Betti numbers equal to 2 up to homeomorphism. A quasitoric manifold is a topological analogue of a toric variety, which is a closed $2n$ -dimensional manifold with an n -dimensional torus action whose orbit space has the structure of a simple convex polytope of dimension n . The orbit space of a quasitoric manifold with the second Betti number 2 is a product of two simplices. Using the classification result we can prove that any two quasitoric manifolds with the second Betti number 2 are homeomorphic if and only if their cohomology rings are isomorphic. (Received December 12, 2011)