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Some results relating low-dimensional wild homology and homotopy groups

Abstract. We will discuss some ongoing work relating the low-dimensional homology and homotopy groups of locally complicated spaces. Of particular interest is the so-called "strong wedge" of spaces. Recall that the famous Barratt–Milnor example (the strong wedge of countably many 2-spheres) is a 2-dimensional space which is a manifold at every point except one but which has an infinite (uncountable) third singular homology group. We will discuss lower dimensional analogues of Barratt-Milnor behavior. We will also give a type of converse to the classical Hurewicz theorem which states that the first singular homology of a space can be calculated from the fundamental group of the space.