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Reduced Simplicial Homology and Circulant Graphs

This poster introduces a family of circulant graphs that is Cohen-Macaulay. We begin by introducing simplicial complexes. We then define reduced simplicial homology and introduce the definition of Cohen-Macaulay simplicial complexes. These ideas are then applied to graphs to define Cohen-Macaulay graphs. We review the literature by describing what families of circulant graphs are known to be Cohen-Macaulay and we finish by introducing a new family of circulant graphs that are Cohen-Macaulay.