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Symmetries of Graphs in Homology Spheres.

In this paper we will explore symmetries of spatial graphs in the family of homology spheres. We will generalize previous findings in the 3-sphere and see how concepts of rigidity, chirality and intrinsic linking interact with automorphisms of spatial graphs. Our results include a rigid symmetry theorem for 3-connected graphs, a classification of realizable automorphisms of complete graphs and examples of unrealizable automorphisms of Petersen graphs. (Received August 17, 2016)