Abhijit Champanerkar and Ilya Kofman*, ikofman@math.csi.cuny.edu, and Jessica Purcell.

Right-angled volume of alternating links. Preliminary report.

For any prime alternating link K, Menasco and Thistlethwaite described a decomposition along invariant Conway spheres into alternating tangles. We extract from their decomposition a new geometric link invariant, the "right-angled volume" of K, which is the sum of volumes of right-angled checkerboard polyhedra associated to the alternating tangles that constitute K. We describe a method to compute it from a link diagram and discuss some applications. (Received July 18, 2017)