

ABSTRACT. Makeev conjectured that every constant-width body is inscribed in the dual difference body of a regular simplex. We prove that homologically, there are an odd number of such circumscribing bodies in dimension 3, and therefore geometrically there is at least one. We show that the homological answer is zero in higher dimensions, a result which is inconclusive for the geometric question. We also give a partial generalization involving affine circumscription of strictly convex bodies.