

THE SAUSAGE CONJECTURE

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(Joint work with Martin Henk)

The Sausage Conjecture of L. Fejes Tóth (1975) states that for all dimensions $d \geq 5$, the densest packing of any finite number of spheres in \mathbb{R}^d occurs if and only if the sphere centers are all placed as closely as possible on one line, i.e., a “sausage.” We discuss the progress made in the literature, including the result of Betke and Henk (1998) that the Sausage Conjecture is true for all $d \geq 42$. Our work builds upon the methods of Betke and Henk to improve the lower bound to $d \geq 36$ with the aid of interval arithmetic for certain complicated portions. We also mention some potential future research directions.