

ON THE APPROXIMATION OF CONVEX BODIES BY MONOSTABLE POLYHEDRA

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(Joint work with Csaba D. Tóth)

A convex polyhedron in $\mathbb{R}^3$ is called *monostable* if it can be balanced on a horizontal plane only on one of its faces. These objects were introduced by Conway at the end of the 1960s, and were described by Shephard in 1968 as ‘a remarkable class of convex polyhedra’ whose properties ‘it would probably be very rewarding and interesting to make a study of’. In 1969 there problems were proposed by Conway regarding monostable polyhedra, which since then were re-stated in some open problem books on geometry. Two of these problems were solved by the presenter in a recent paper. In this talk we sketch the solution of the third problem, asking the following: Which convex bodies can be approximated arbitrarily well, measured in Hausdorff distance, by monostable polyhedra?