

1020-52-168

Igor Pak* (pak@math.mit.edu), Department of Mathematics, 77 Mass Ave, Cambridge, MA 02138. *Inflating polyhedral surfaces.*

We prove that all polyhedral surfaces in \mathbb{R}^3 have volume-increasing piecewise-linear isometric deformations. This resolves the conjecture of Bleecker who proved it for convex simplicial surfaces. Further, we prove that all convex polyhedral surfaces in \mathbb{R}^d have convex volume-increasing piecewise-linear submetric deformations. We also discuss the limits on the volume of such deformations, present a number of conjectures and special cases.

In the talk, rather than present the proofs, I will show several examples and nice pictures. The talk should be accessible to the general audience. (Received August 27, 2006)