

Minimal triangulations of cubes and simplotopes

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A simplotope is a polytope that is a product of simplices; such objects arise naturally as strategy spaces for n -person games. Thus a cube, which is a product of line segments, is a special kind of simplotope. What is the minimal number of simplices possible for a triangulation of a cube or simplotope? We present a new approach to obtain lower bounds for minimal triangulations of cubes and simplotopes. In our bounds, we allow triangulations to admit interior vertices, and our work improves earlier known bounds for dimensions 4 and higher. These results are joint work with Adam Bliss and Tyler Seacrest.