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*A Geometric Constructive Proof for the 2D Discrete Minkowski Problem*

The 2-dimensional discrete Minkowski problem seeks to determine the necessary and sufficient conditions for the existence of a polygon in  $R^2$  with  $n$  facets, whose outer unit normals are  $u_1, u_2, \dots, u_n \in S^1$  and such that the facet whose outer unit normal is  $u_i$  has length  $a_i$ , where  $a_1, a_2, \dots, a_n > 0$ . Minkowski solved this problem in 1897 using a variational argument. In this talk, we will present a geometric constructive proof based on special reflections, which offers new insights into the problem and proposes the study of a new type of flow on 2-dimensional polygons.