

SL(n) invariant notions of surface area

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For smooth convex bodies in \mathbb{R}^n , there are two classical $\text{SL}(n)$ invariant notions of surface area: affine surface area and centro-affine surface area. Recently, these definitions have been extended to general convex bodies.

We describe applications of these affine surface areas to problems of polytopal approximation and give further geometric interpretations. We also present an $\text{SL}(n)$ invariant analogue of Hadwiger's classical characterization theorem.

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