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**A Modification of the
Roper-Suffridge Extension Operator**

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Abstract. The Roper-Suffridge extension operator extends a locally univalent mapping defined on the unit disk of \mathbb{C} to a locally biholomorphic mapping defined on the Euclidean unit ball of \mathbb{C}^n . Furthermore, the extension of a one variable mapping that is either convex or starlike has the analogous property in several variables. Motivated by recent results concerning the extreme points of the family \mathcal{K}_n of normalized convex mappings of the Euclidean ball in \mathbb{C}^n , we introduce a new extension operator that, under precise conditions, takes the extreme points of \mathcal{K}_1 to extreme points of \mathcal{K}_n . In general, we examine the conditions under which this new extension operator will take a convex or starlike mapping of the unit disk to a mapping of the same type defined on the unit ball.

Keywords. Roper-Suffridge extension operator, convex mapping, starlike mapping, extreme points.

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