UC–MAJORIZATION AND ITS STRONGLY LINEAR PRESERVERS

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Abstract. In this paper we introduce the concept of semimajorization as a generalized form of majorization. After that we discuss uc-majorization. For \( x, y \in \mathbb{R}^n \), we say \( x \) is uc-majorized by \( y \) (written as \( x \prec_{uc} y \)) if there exists an upper triangular column stochastic matrix \( A \) such that \( x = Ay \). In our main theorem we characterize all linear maps that strongly preserve \( \prec_{uc} \) on \( \mathbb{R}^n \). Furthermore at the end, we characterize strong linear preservers for lc-majorization.


Keywords and phrases: Semimajorization, uc-majorization, lc-majorization, strong linear preserver.

REFERENCES