



Multidimensional Max-Min Sampling Operators with Applications

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Abstract

In this study, we investigate multidimensional max-min type sampling operators, including neural network operators [1]. We establish both pointwise and uniform convergence for these operators and analyze their rate of approximation. Finally, we demonstrate that these operators can function as morphological operations, such as dilation and erosion, which serve as the fundamental building blocks of morphological image processing.

Acknowledgement This research is supported by the Scientific and Technological Research Council of Türkiye (TÜBİTAK) under grant number 124F356.

Keywords: Sampling operators, neural network operators, image processing.

References:

- [1] İ. Aslan, Approximation by max-min neural network operators. *Numer. Funct. Anal. Optim.* 46 (2025), no. 4-5, 374–393.