

SET-VALUED APPROXIMATION OF MULTIFUNCTIONS

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This paper introduces several results on approximation of multifunctions with convex and non-convex values. We consider multifunctions having at least nonempty and compact values in \mathbb{R}^n . The convex case (when the multifunctions have convex values) is closer to the point-to-point case. The non-convex case (the values of the multifunctions are not longer assumed to be convex) is more challenging. In the convex case we present results on the Bernstein approximation, the Stone-Weierstrass approximation theorem, and the Korovkin-type approximation. In the non-convex case we present results on linear operators on multifunctions based on a metric linear combination of ordered sets, metric piecewise linear approximations of multifunctions, and approximation by metric Bernstein, Schoenberg, and interpolation operators. The results of the paper recently appeared in [1].

REFERENCES

- [1] M. Mureşan, *Set-valued approximation of multifunctions*, Studia Univ. Babeş-Bolyai Math., **55** (2010), pp. 107-148.