

## Approximation by Durrmeyer-Sampling Type Operators in Functional Spaces

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Sampling-type operators have been introduced in order to give an approximate version of the celebrated classical sampling theorem. Among these operators, we have studied the Durrmeyer-Sampling type operators (DSO) [4], (see also [6, 2]), which represent a further generalization of the well-known Generalized [3] and Kantorovich-Sampling operators [1, 5].

In order to follow a unifying approach, we have provided a general result in terms of convergence, which is represented by a modular convergence theorem in Orlicz spaces. From the latter result, the convergence in  $L^p$ -spaces follows as particular case. This approximation result for DSO is important, in some particular case, from the applications point of view, e.g. in image processing, where we have to work with not-necessarily continuous signals. For the sake of completeness of the theory, we have also studied the continuous case, providing a pointwise and uniform convergence theorem and quantitative estimates.

Moreover, all the above convergence results for DSO can also be extended in the multidimensional setting.

### References

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