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## Ostrowski Type Inequalities Over Balls and Shells via a Taylor-Widder Formula

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**Abstract:**

The classical Ostrowski inequality for functions on intervals estimates the value of the function minus its average in terms of the maximum of its first derivative. This result is extended to higher order over shells and balls of  $\mathbb{R}^N$ ,  $N \geq 1$ , with respect to an *extended complete Tschebyshev system* and the *generalized radial derivatives of Widder type*. We treat radial and non-radial functions.



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