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## Inequalities for the Smallest Zeros of Laguerre Polynomials and their $q$ -analogues

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**Abstract:** We present bounds and approximations for the smallest positive zero of the Laguerre polynomial  $L_n^{(\alpha)}(x)$  which are sharp as  $\alpha \rightarrow -1^+$ . We indicate the applicability of the results to more general functions including the  $q$ -Laguerre polynomials.



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