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ENCLOSING ROOTS OF POLYNOMIAL EQUATIONS AND THEIR APPLICATIONS TO ITERATIVE PROCESSES

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Abstract. We introduce a special class of real recurrent polynomials f_n $(n \geq 1)$ of degree n, with unique positive roots s_n, which are decreasing as n increases. The first root s_1, as well as the last one denoted by s_∞ are expressed in closed form, and enclose all s_n $(n > 1)$.

This technique is also used to find weaker than before [5] sufficient convergence conditions for some popular iterative processes converging to solutions of equations.

Full text

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