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Factoring Chebyshev Polynomials,
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Abstract

We provide an organizational structure for the irreducible factors of Chebyshev polynomials of the first and second kind. Several new proofs of known results are given and extensions to compositions are derived. Finally, the decomposition of the irreducible factors as linear combinations of Chebyshev polynomials is obtained and a connection to the cyclotomic polynomials is demonstrated.