Difference Polynomials and their Generalizations

Saurabh Bhatia
Department of Mathematics
Panjab University
Chandigarh-160014, India.
e-mail: srbmaths@yahoo.com

Sudesh K. Khanduja[1]
Department of Mathematics
Panjab University
Chandigarh-160014, India.
e-mail: skhand@usa.net

Abstract. A well known result of Ehrenfeucht states that a difference polynomial $f(X) - g(Y)$ in two variables X, Y with complex coefficients is irreducible if the degrees of f and g are coprime. Panaitopol and Stefănescu generalized this result by giving an irreducibility condition for a larger class of polynomials called 'generalized difference polynomials'. In this paper, we give an irreducibility criterion for more general polynomials of which the criterion of Panaitopol and Stefănescu is a special case.

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[1] All correspondence may be addressed to this author.