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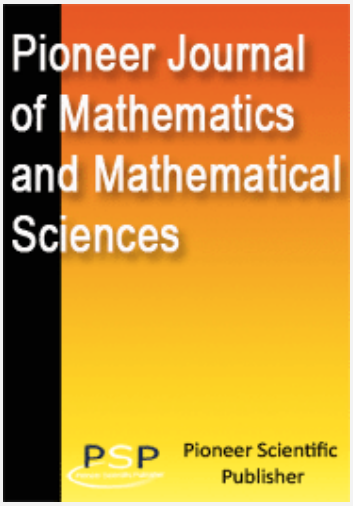

APPLYING DECOMPOSITION METHOD TO SYSTEMS OF VOLTERRA NONLINEAR INTEGRAL EQUATIONS OF THE FIRST KIND

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Abstract

The Adomian decomposition method (ADM) has been claimed as an efficient method for solving some integral equations. However, for the integral equations of the first kind some difficulties arose to apply this method in its classic formulation. We develop here an algorithm that takes into account nonlinear integral equations of the first kind. We show throughout some numerical examples that this method can be considered as an alternatively method for solving large class of integral equations.

Keywords and phrases: decomposition method, system of integral equations, substitution technique, methodology for solving.