

On a new integral transform and differential equations.

ABSTRACT

Integral transform method is widely used to solve the several differential equations with the initial values or boundary conditions which are represented by integral equations. With this purpose, the Sumudu transform was introduced as a new integral transform by Watugala to solve some ordinary differential equations in control engineering. Later, it was proved that Sumudu transform has very special and useful properties. In this paper we study this interesting integral transform and its efficiency in solving the linear ordinary differential equations with constant and nonconstant coefficients as well as system of differential equations.

Keyword: Integral Transform; Differential equations.