

Guo, Bingchan; Li, Ying; Qiao, Yuying

A nonlinear boundary value problem with a shift for generalized hypermonogenic function.

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Summary: This paper discusses a nonlinear boundary value problem with a shift for generalized hypermonogenic function. Firstly we decompose the generalized hypermonogenic function into integral operators and discuss the properties of the integral operators. Then by the Plemelj formula for hypermonogenic functions and Schauder fixed point theorem, we prove the existence and uniqueness of the solution to the nonlinear boundary value problem with a shift for generalized hypermonogenic function.

MSC:

30G35 Functions of hypercomplex variables and generalized variables

30E25 Boundary value problems in the complex plane

Keywords:

generalized hypermonogenic functions; boundary value problems