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L^p integrability of a higher order Teodorescu operator in Clifford analysis. (Chinese. English summary) [Zbl 1389.30160](#)

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Summary: Firstly, the $A_n(R)$ -valued higher order Teodorescu operator T in \mathbb{R}^n is defined and its properties in L^γ space are discussed. Secondly, its norm is estimated and a modified higher order Teodorescu operator T^* is introduced. And then, that the operator T^* has a unique fixed point by the Banach's contract mapping principle is proved. Finally, that the Mann iterative sequence strongly converges to the fixed point of T^* is proved and an iterative sequence of the solution of a singular integral equation is given.

MSC:

30G35 Functions of hypercomplex variables and generalized variables

Keywords:

Clifford analysis; Teodorescu operator; fixed point theorem