On the representation of the spatial version of pseudoanalytic functions

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We consider a generalized Vekua equation in biquaternionic formalism where the Cauchy-Riemann operator is replaced by the differential operator D of Dirac. For particular classes we construct differential operators of higher order which give a relation between the monogenic functions as solutions of Dw = 0 and the generalized pseudoanalytic functions as solutions of the generalized Vekua equation. Using generating functions in the sense of L. Bers we can give further representations of such functions.

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