On classes of derivable functions generated by PDE's with constant coefficients

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The aim of this talk is to show that given a PDE with real or complex partial derivatives and with constant coefficients it is possible, in certain cases, to assign to it an algebra (of hypercomplex numbers) and a set of functions with values in the algebra, in such a way that the components of functions are solutions of the PDE. It is a far-reaching generalization of the well known fact that solutions to the two-dimensional (real) Laplace equation can be provided by assigning to it the algebra of complex numbers and holomorphic functions with values in this algebra.