Series expansions of monogenic functions

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Recently complete orthonormal Appell systems of monogenic polynomials were introduced by several authors. These systems are used to define Taylor type series expansions based on the hypercomplex derivability of monogenic functions. With these results we study in the talk weighted function spaces of monogenic functions and characterize the functions belonging to such spaces equivalently by properties of their Taylor or Fourier coefficients, respectively. It will be shown that the relations between the coefficients can be used also to prove some function theoretic theorems, like the Bohr theorem and the Bloch theorem for monogenic functions.

The talk is based on a joint work with S. Bock and J. Morais.