Functions of a Complex Variable in Time Scales

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Discrete analytic functions (or holomorphic) functions being analytic functions on the Gaussian integers $\mathbb{Z}[i] = \mathbb{Z} + i\mathbb{Z}$ were introduced by Isaacs in 1941 and then were extensively studied by himself and other authors. In this talk, we consider a concept of analytic functions on an arbitrary time scale complex plane $\mathbb{T}_1 + i\mathbb{T}_2$, where $\mathbb{T}_1$ and $\mathbb{T}_2$ are arbitrary time scales. Note that a time scale is any nonempty closed subset of the reals $\mathbb{R}$, which in particular may be the reals $\mathbb{R}$ itself as well as the integers $\mathbb{Z}$. Therefore, we unify and extend the concepts of continuous and discrete analytic functions.