

# 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  $\mathbf{Z}[i] = \mathbf{Z} + i\mathbf{Z}$  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  $\mathbf{T}_1 + i\mathbf{T}_2$ , where  $\mathbf{T}_1$  and  $\mathbf{T}_2$  are arbitrary time scales. Note that a time scale is any nonempty closed subset of the reals  $\mathbf{R}$ , which in particular may be the reals  $\mathbf{R}$  itself as well as the integers  $\mathbf{Z}$ . Therefore, we unify and extend the concepts of continuous and discrete analytic functions.