Subclasses of univalent mappings in $\mathbb{C}^n$ and the Graham-Kohr extension operator

Eduard Ştefan Grigoriciuc

Faculty of Mathematics and Computer Science, "Babeş-Bolyai" University
&
"Tiberiu Popoviciu" Institute of Numerical Analysis, Romanian Academy
Cluj-Napoca, Romania

`eduard.grigoriciuc@ubbcluj.ro`

Let $\mathbb{B}^n \subseteq \mathbb{C}^n$ be the Euclidean unit ball in $\mathbb{C}^n$. We present two subclasses of convex, respectively starlike univalent mappings on $\mathbb{B}^n$ together with some interesting properties of them. Using the Graham-Kohr extension operator (introduced by I. Graham and G. Kohr in 2002) we study how the previous subclasses are preserved from one to several complex variables.

In the final part, we present some numerical examples that indicate a positive answer to a question proposed in the paper: the extension of the class K (of convex functions on the unit disc) through the Graham-Kohr extension operator.