1145-32-2662   **Jerry R. Muir, Jr.***, Department of Mathematics, The University of Scranton, Scranton, PA 18510.
Convex families of holomorphic mappings related to the convex mappings of the ball in $\mathbb{C}^n$.

We consider the closed convex hull of the family of convex mappings of the Euclidean unit ball $\mathbb{B} \subseteq \mathbb{C}^n$; i.e., the family of normalized biholomorphic mappings defined in $\mathbb{B}$ whose images are convex domains in $\mathbb{C}^n$. When $n = 1$ (and $\mathbb{B}$ is the unit disk $\mathbb{D}$) the closed convex hull can be described by using an integral representation derived from the Herglotz representation of analytic functions of $\mathbb{D}$ with positive real part and an elementary analytic property satisfied by convex mappings. As is typical, things are more complicated when $n \geq 2$. In that case, we will consider the natural generalization to $\mathbb{B}$ of an analytic condition characterizing the closed convex hull of the convex mappings of $\mathbb{D}$ and show that the (convex) family of mappings satisfying this condition is not the closed convex hull of the convex mappings of $\mathbb{B}$ by illustrating that the two convex sets do not have the same extreme points. (Received September 25, 2018)