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Isidro, J.M.; Stachó, L.

Pointwise convergent nets of holomorphic automorphisms of the unit ball of Cartan factors. (English)

Summary: A classical result due to H. Cartan states that if a sequence (h_n) of holomorphic automorphisms of the unit disk Δ of $\mathbb{C}$ is pointwise convergent on Δ to a limit h and $(h_n(0))$ is bounded away from the boundary $\partial(\Delta)$, then h is a holomorphic automorphism of Δ. The analogous result for the open unit ball D of a complex Banach space E is not true in general. Here, we consider pointwise convergent nets (h_i) of holomorphic automorphisms of the unit balls of those Banach spaces known as special Cartan factors and establish a sufficient condition for the pointwise limit $h = \lim_i h_i$ to be a holomorphic automorphism of D.

Keywords : holomorphic automorphisms; complex Banach space; Cartan factors

Classification :

∗46G20 Infinite dimensional holomorphy

32M15 Symmetric spaces (analytic spaces)