

1125-42-1235

John E Herr* (jeherr@butler.edu). *de Branges-Rovnyak Spaces and the Kaczmarz Algorithm.*

We demonstrate that for b an inner function and $\mathcal{H}(b)$ its associated de Branges-Rovnyak space, the Taylor series of functions in $\mathcal{H}(b)$ come precisely from applying the Kaczmarz algorithm to their $L^2(\mu)$ boundary functions, where μ is the singular measure associated to b via the Herglotz representation theorem. In particular, we demonstrate that the normalized Cauchy transform from $L^2(\mu)$ to $\mathcal{H}(b)$ can be expressed using a Parseval frame in $L^2(\mu)$. (Received September 15, 2016)