

Highlights

- We add long term memory to the Grunwald differintegral by averaging the history.
- Time can most successfully be binned exponentially, with longer bins toward the past.
- The algorithm scales as the number of bins in memory and time during run time.
- Simulations show a factor of 3 gain in constant phase bandwidth for 10 bins over the IIR.
- There is a 2 to 2.5 decade gain in bandwidth for 20 bins over the Infinite Impulse Response.