
MICHAEL LAMOUREUX, Dept. of Mathematics and Statistics, University of Calgary

Linear operators and minimum phase

Geophysical applications demand a mathematical modeling of physical processes that respect minimum phase conditions. Essentially, this states that energy in a signal is concentrated near the beginning of the onset of a signal. We present a mathematical definition of minimum phase, develop robust calculation of equivalent minimum phase signals, and examine the class of linear operators on Hilbert space that preserve minimum phase. Properties are closely connected to factorization problems in Hardy space.