Signal envelope

The function, envelope returns the upper envelope of the input sequence, as the magnitude. If x is a matrix, then the envelope operates independently over each and every column of x. In this example, we generate the test signal as a suppressed cosine.

$Dt := curve2d(x, -10, 10, 10001)$ Time axis

$dt := col2vec(Dt, 0)$

$a := 0.2$ Damping factor

$signal1 := -0.75 + mul\left(sin(\pi \cdot 2\ dt), exp(-a\ dt) \right)$ Dumped sinusoidal with DC bias

$gs := join\ mat\ cols(dt, signal1)$ Graph of the signal

$genv := join\ mat\ cols\left(dt, envelopetop(signal1) \right)$ Graph of the top envelope of signal

$gloenv := join\ mat\ cols\left(dt, envelopebottom(signal1) \right)$ Graph of the low envelope