Figures for AM and FM

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AMPLITUDE MODULATION
Not a Constant Envelope (or Amplitude) Modulation

\[ x_{AM}(t) = A [1 + m s(t)] \cos 2\pi f_0 t \]

\[ |s(t)|_{\text{max}} = 1 \]

\[ 0 \leq m \leq 1 \quad m=\text{index of modulation} \]

A \cos 2\pi f_0 t

\[ s(t) \quad \text{m} \quad \text{MOD} \quad x_{AM}(t) \]
FREQUENCY MODULATION
(Continuous Phase Modulation)
Constant Envelope


The constant, $h$, is connected to what is normally called the “maximum frequency deviation” in analog modulation techniques.