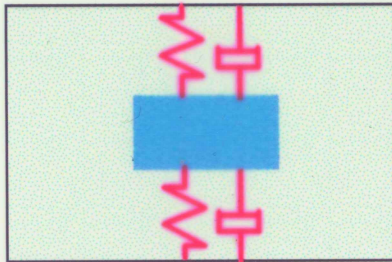
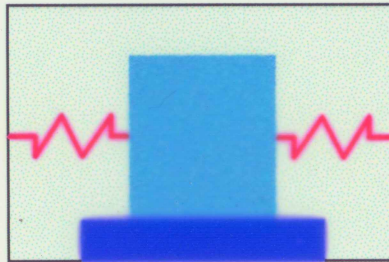
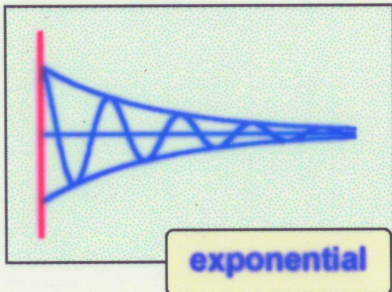


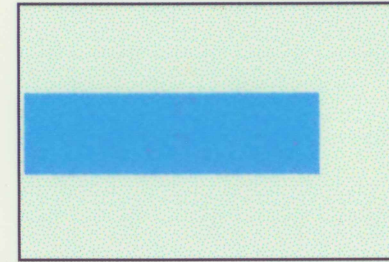
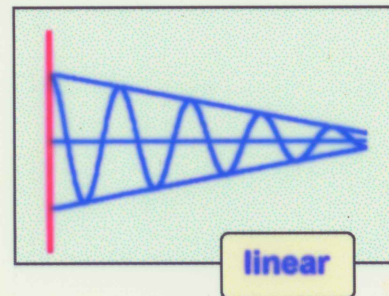
Casuality in Modelling



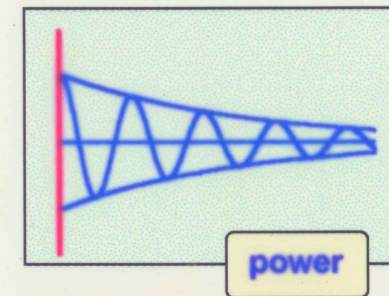
Viscous Damping
Casuality O.K.



Coulomb Damping



Hysteretic Damping
Casuality ?



S. S. Rao (1990) ?
J. Argyris (1991) ?

$$m\ddot{u} + k(1 + i\eta)u = P(t) \longrightarrow m\ddot{u} + h\frac{|u|}{\dot{u}}\dot{u} + ku = P(t)$$