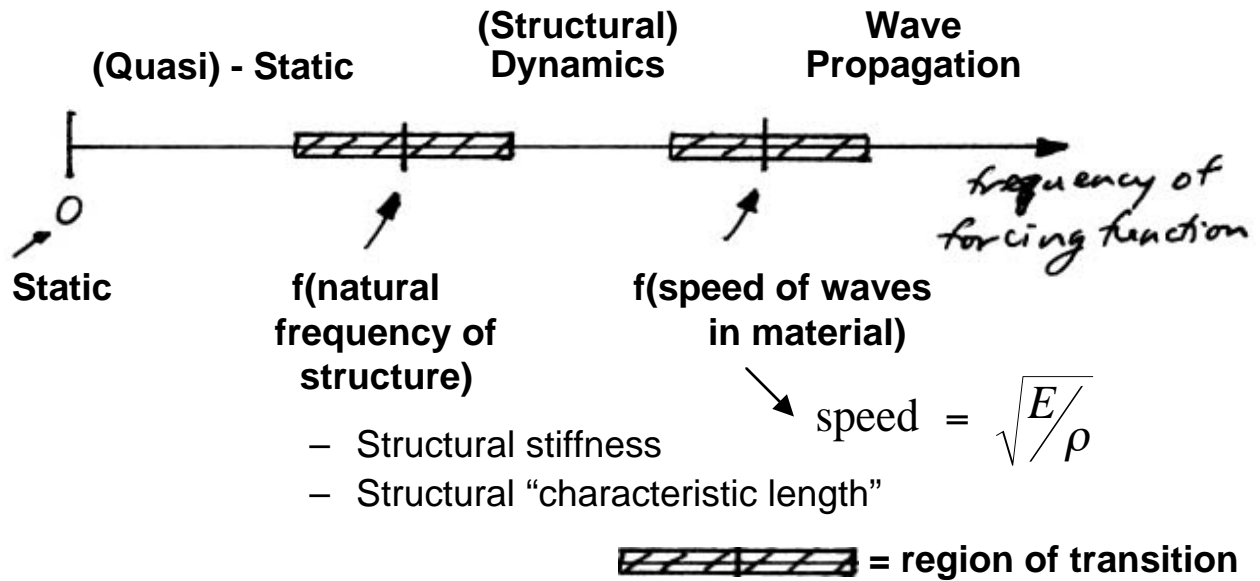


16.20 HANDOUT #6

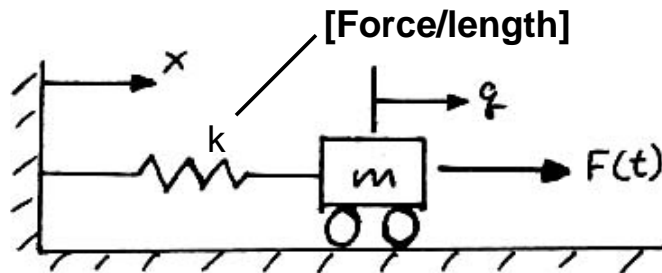
Fall, 2002

(Introduction To) Structural Dynamics

REGIMES



SPRING-MASS SYSTEMS



Static equation: $F = kq$ $(\dot{\quad}) = \frac{d}{dt}$

Dynamic: $m\ddot{q} + kq = F(t)$ (No damping)

$m\ddot{q} + c\dot{q} + kq = F(t)$ (With damping)

Inertial Load = - (mass) x (acceleration)

General form:

$$\underline{m}\ddot{\underline{q}} + \underline{k}\underline{q} = \underline{F}$$

\underline{m} = mass matrix

\underline{k} = stiffness matrix

