

1

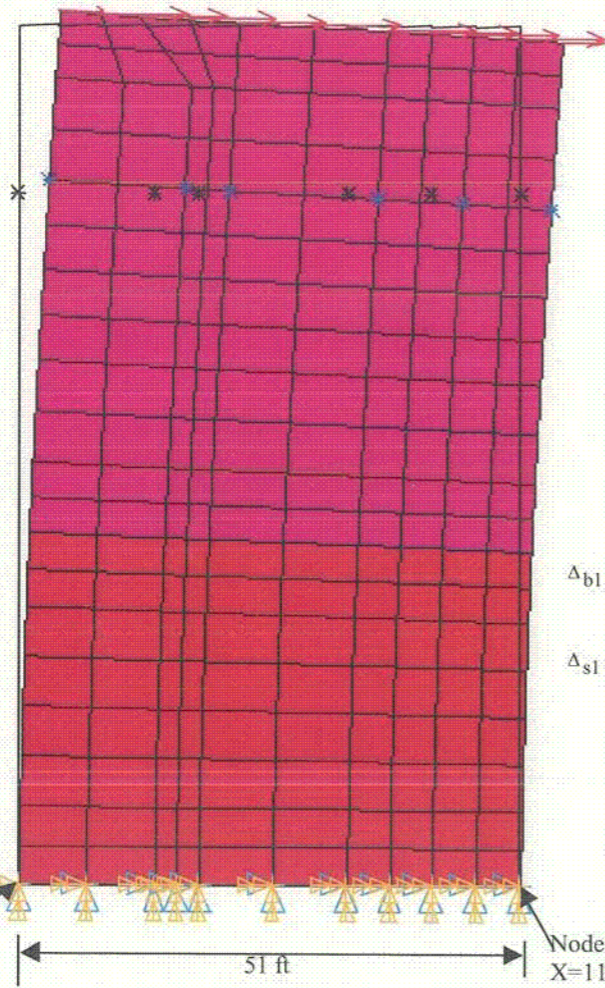
DISPLACEMENT

STEP=1
SUB =1
TIME=1
DMX =.178E-03

- U
- ROT
- F
- CP



JAN 9 2003
16:24:36



Material E := 519000ksf ν := 0.17
 $G := \frac{E}{2(1 + \nu)}$ G = 2.218 × 10⁵ ksf

Section 1: h := 51-ft t₁ := 3-ft
 $A_1 := h \cdot t_1$ A₁ = 153ft²
 $I_1 := \frac{t_1 \cdot h^3}{12}$ I₁ = 3.316 × 10⁴ ft⁴

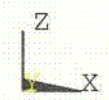
Beam Deflection: K := 1.2
P := 10-kips L₁ := 35.5ft L₂ := 53.19ft
L := L₁ + L₂ L = 88.69ft

$$\Delta_{b1} := \frac{P \cdot L^3}{3EI_1} \quad \Delta_{b1} = 1.351 \times 10^{-4} \text{ ft}$$

$$\Delta_{s1} := K \cdot \frac{P \cdot L}{A_1 \cdot G} \quad \Delta_{s1} = 3.136 \times 10^{-5} \text{ ft}$$

$$\Delta := \Delta_{b1} + \Delta_{s1}$$

$$\Delta = 1.665 \times 10^{-4} \text{ ft}$$



Node 4497
X=1065.5

Node 4809
X=1116.5

51 ft

Diff = 6.9%