

UNIVERSITATEA "POLITEHNICA" TIMISOARA  
FACULTATEA DE MECANICA

617.595/5  
180 C

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Teza de doctorat

**"OPTIMIZAREA STRUCTURILOR DE REZISTENTA ALE MASINILOR UNELTE  
PRIN PROIECTAREA ASISTATA DE CALCULATOR CU METODE NUMERICE  
APLICATII PE STRUNGURI NORMALE"**

**Anexa B4**

BIBLIOTECA CENTRALA  
UNIVERSITATEA "POLITEHNICA"  
TIMISOARA

**Conducator stiintific Profesor dr.ing Ionel DOBRE**

**1996**

## CUPRINS

### Calculul vibratiilor foratate-Program MARC-MENTAT II

Varianta stru\_f4( $n=800\text{rpm}$ ;  $p_0=0,2p_{0,\text{nod}}$ ; amortizare structurala+suruburi fundatie)

Deplasari dir.X-10 incrementi	B652-B662
Deplasari dir.Y-10 incrementi	B663-B673
Deplasari dir.Z-10 incrementi	B674-B684
Acceleratii dir.X,Y,Z	B685-B687
Deplasari nod 863(dir.x,y,z)	B688
Deplasari nod 863 comparativ cu nodurile684 si 963(dir.x,y,z)	B689-B691
Acceleratii nod 863(dir.x,y,z)	B692
Acceleratii nod 863 comparativ cu nodurile684 si 963(dir.x,y,z)	B693-B695
Deplasari nod 822(dir.x,y,z)	B696
Deplasari nod 822 comparativ cu nodurile657 si 941(dir.x,y,z)	B697-B698
Acceleratii nod 822(dir.x,y,z)	B700
Acceleratii nod 822 comparativ cu nodurile657 si 941(dir.x,y,z)	B701-B703
Deplasari nod 219(dir.x,y,z)	B704
Deplasari nod 219 comparativ cu nodurile141 si 302(dir.x,y,z)	B705-B707
Acceleratii nod 219(dir.x,y,z)	B708
Deplasari nod 186(dir.x,y,z)	B709
Deplasari nod 186 comparativ cu nodurile108 si 265(dir.x,y,z)	B710-B712
Acceleratii nod 186(dir.x,y,z)	B713
Deplasari nod 1495(dir.x,y,z)	B714
Deplasari nod 1061(dir.x,y,z)	B715
Deplasari nod 1066(dir.x,y,z)	B716
Deplasari nod 959(dir.x,y,z)	B717
Deplasari nod 1004(dir.x,y,z)	B718
Deplasari nod 1027(dir.x,y,z)	B719
Deplasari nod 1092(dir.x,y,z)	B720
Deplasari nod 1093(dir.x,y,z)	B721
Deplasari nod 1697(dir.x,y,z)	B722
Deplasari nod 1700(dir.x,y,z)	B723

Varianta stru\_f2( $n=1000\text{rpm}$ ;  $p_0=0,2p_{0,\text{nod}}$ ; amortizare structurala+suruburi fundatie)

Deplasari dir.X-10 incrementi	B725-B735
Deplasari dir.Y-10 incrementi	B736-B746
Deplasari dir.Z-10 incrementi	B747-B757
Acceleratii dir.X,Y,Z	B758-B760
Deplasari nod 863(dir.x,y,z)	B761
Deplasari nod 863 comparativ cu nodurile684 si 963(dir.x,y,z)	B762-B764
Acceleratii nod 863(dir.x,y,z)	B765
Acceleratii nod 863 comparativ cu nodurile684 si 963(dir.x,y,z)	B766-B768
Deplasari nod 822(dir.x,y,z)	B769
Deplasari nod 822 comparativ cu nodurile657 si 941(dir.x,y,z)	B770-B772
Acceleratii nod 822(dir.x,y,z)	B773
Acceleratii nod 822 comparativ cu nodurile657 si 941(dir.x,y,z)	B774-B776
Deplasari nod 219(dir.x,y,z)	B777
Deplasari nod 219 comparativ cu nodurile141 si 302(dir.x,y,z)	B778-B780
Acceleratii nod 219(dir.x,y,z)	B781

Deplasari nod 186(dir.x,y,z)	B782
Deplasari nod 186 comparativ cu nodurile108 si 265(dir.x,y,z)	B783-B785
Acceleratii nod 186(dir.x,y,z)	B786
Deplasari nod 1495(dir.x,y,z)	B787
Deplasari nod 1061(dir.x,y,z)	B788
Deplasari nod 1066(dir.x,y,z)	B789
Deplasari nod 959(dir.x,y,z)	B790
Deplasari nod 1004(dir.x,y,z)	B791
Deplasari nod 1027(dir.x,y,z)	B792
Deplasari nod 1092(dir.x,y,z)	B793
Deplasari nod 1093(dir.x,y,z)	B794
Deplasari nod 1697(dir.x,y,z)	B795
Deplasari nod 1700(dir.x,y,z)	B796

Varianta stru\_f(n=1200rpm;p<sub>0</sub>=0,2p<sub>0,nod</sub>;amortizare structurala+suruburi fundatie)

Deplasari dir.X-10 incrementi	B798-B808
Deplasari dir.Y-10 incrementi	B809-B818
Deplasari dir.Z-10 incrementi	B819-B829
Acceleratii dir.X,Y,Z	B830-B832
Deplasari nod 863(dir.x,y,z)	B833
Deplasari nod 863 comparativ cu nodurile684 si 963(dir.x,y,z)	B834-B836
Acceleratii nod 863(dir.x,y,z)	B837
Acceleratii nod 863 comparativ cu nodurile684 si 963(dir.x,y,z)	B838-B840
Deplasari nod 822(dir.x,y,z)	B841
Deplasari nod 822 comparativ cu nodurile657 si 941(dir.x,y,z)	B842-B844
Acceleratii nod 822(dir.x,y,z)	B845
Acceleratii nod 822 comparativ cu nodurile657 si 941(dir.x,y,z)	B846-B848
Deplasari nod 219(dir.x,y,z)	B849
Deplasari nod 219 comparativ cu nodurile141 si 302(dir.x,y,z)	B850-B852
Acceleratii nod 219(dir.x,y,z)	B853
Deplasari nod 186(dir.x,y,z)	B854
Deplasari nod 186 comparativ cu nodurile108 si 265(dir.x,y,z)	B855-B857
Acceleratii nod 186(dir.x,y,z)	B858
Deplasari nod 1495(dir.x,y,z)	B859
Deplasari nod 1061(dir.x,y,z)	B860
Deplasari nod 1066(dir.x,y,z)	B861
Deplasari nod 959(dir.x,y,z)	B862
Deplasari nod 1004(dir.x,y,z)	B863
Deplasari nod 1027(dir.x,y,z)	B864
Deplasari nod 1092(dir.x,y,z)	B865
Deplasari nod 1093(dir.x,y,z)	B866
Deplasari nod 1697(dir.x,y,z)	B867
Deplasari nod 1700(dir.x,y,z)	B868

## **CALCULUL VIBRATIILOR FORTATE pentru:**

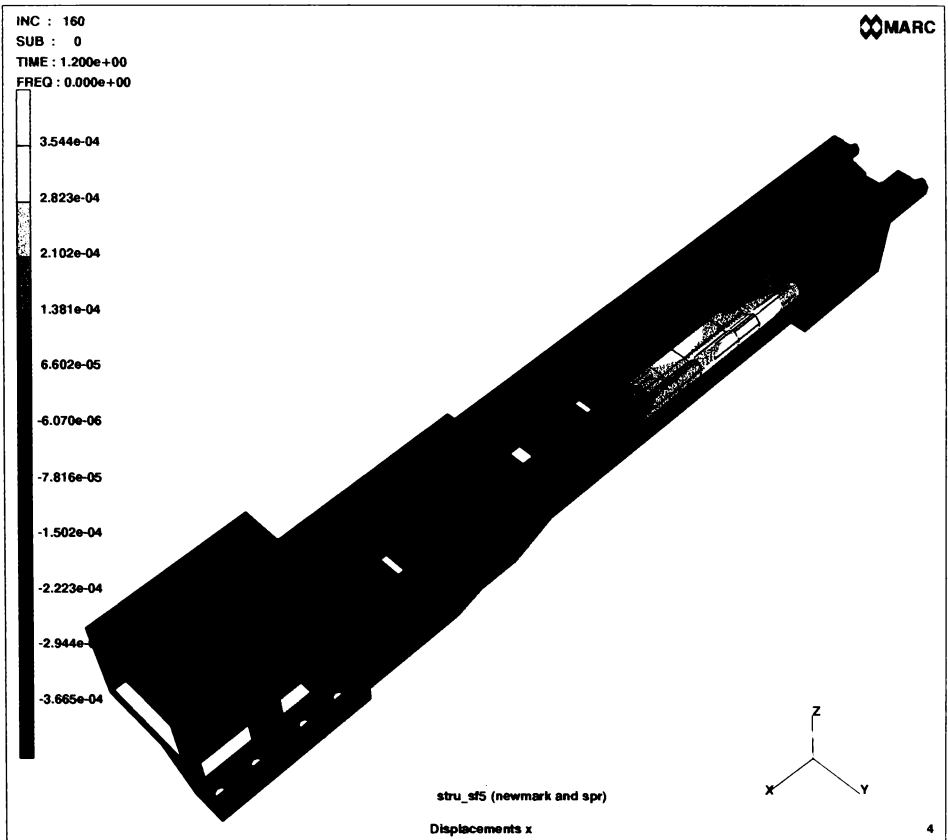
**$n=800$  rpm**

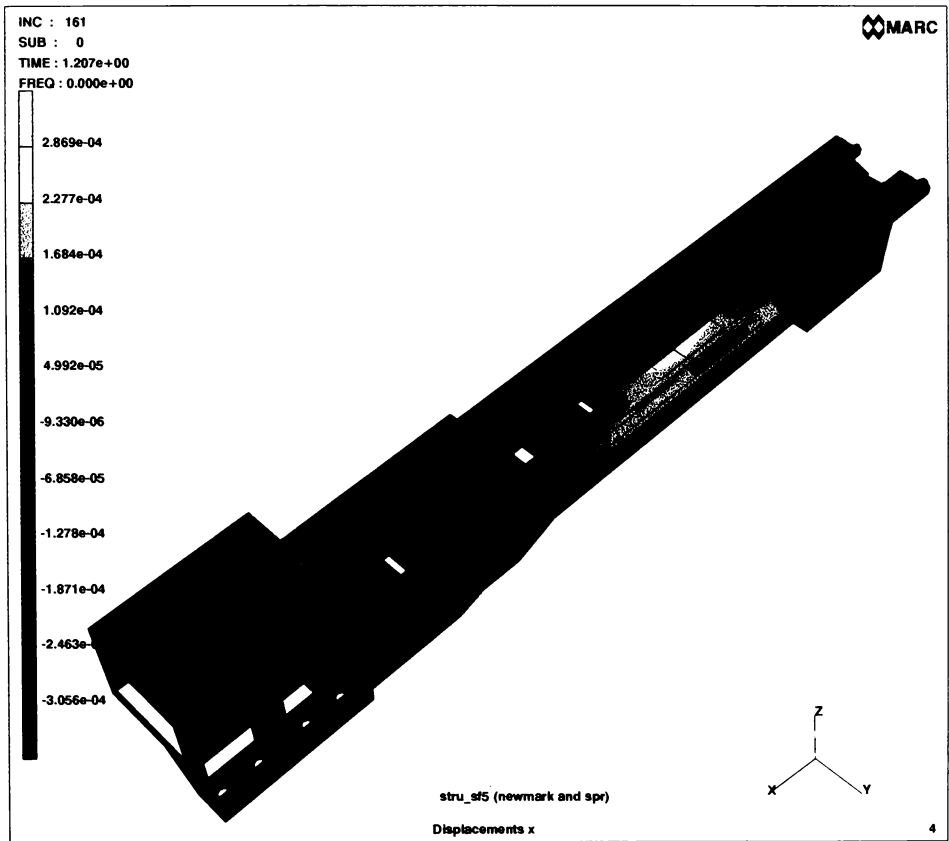
**$t=1.5$  s ;  $\Delta t=0.0075$  ms**

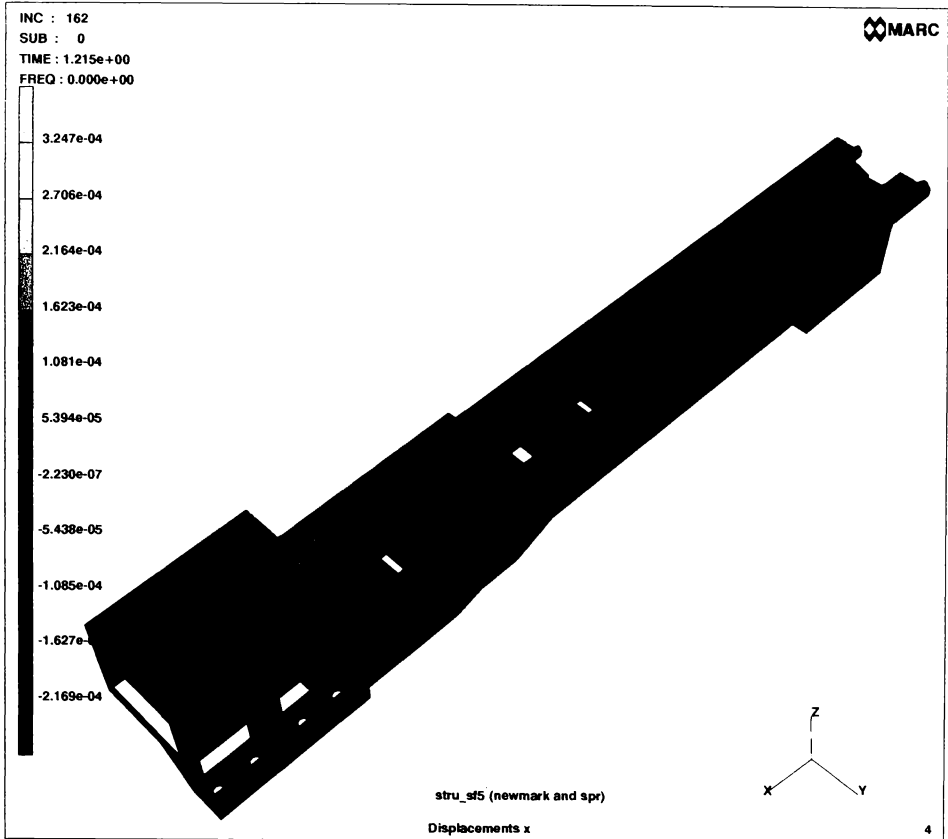
**$p_{nod} = \bar{p}_{o,nod} + p_o \cos \omega t$**

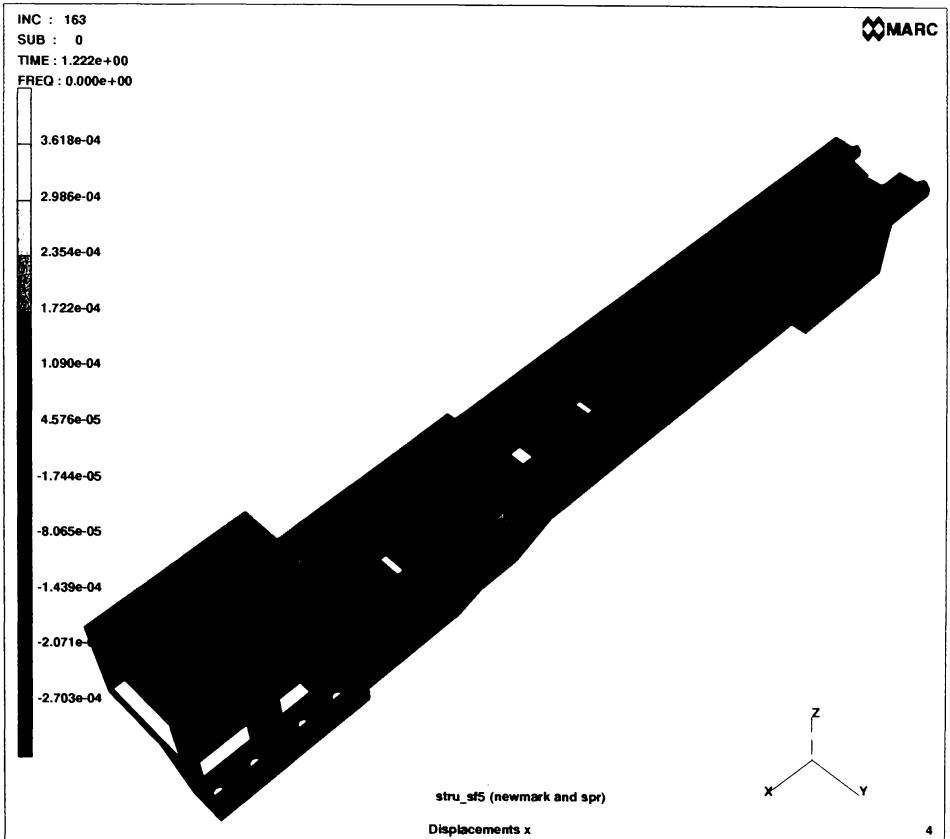
**$p_o = 0.2 \bar{p}_{o,nod}$**

**amortizare structurala si prin  
suruburi fundatie**

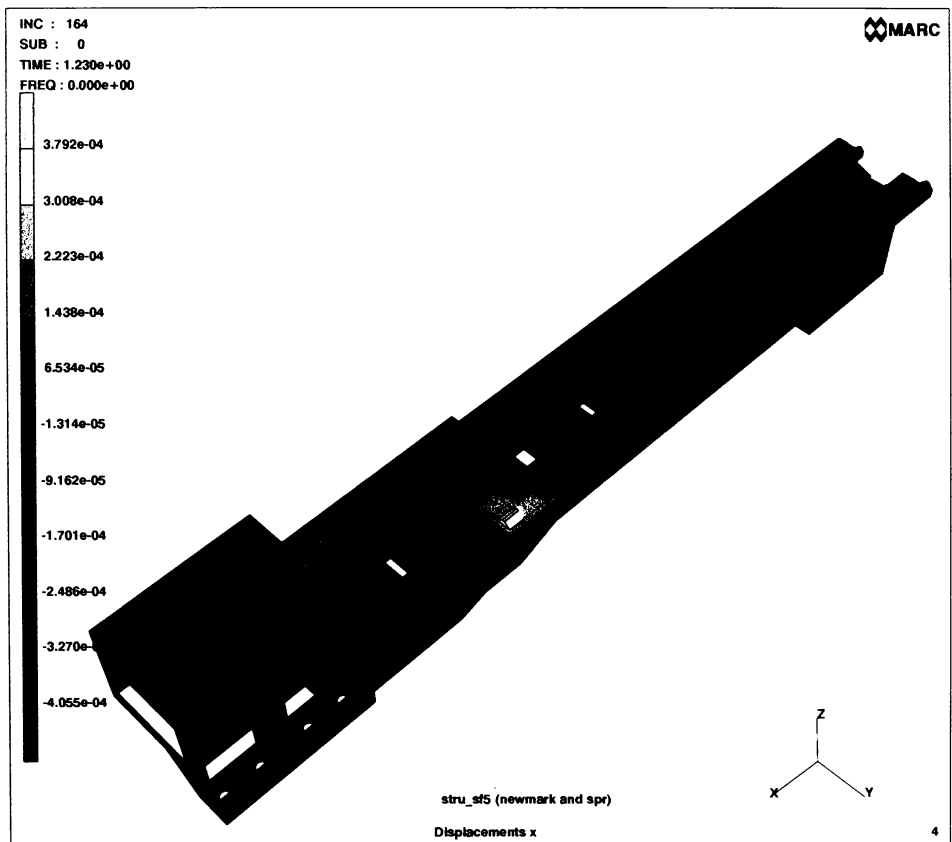


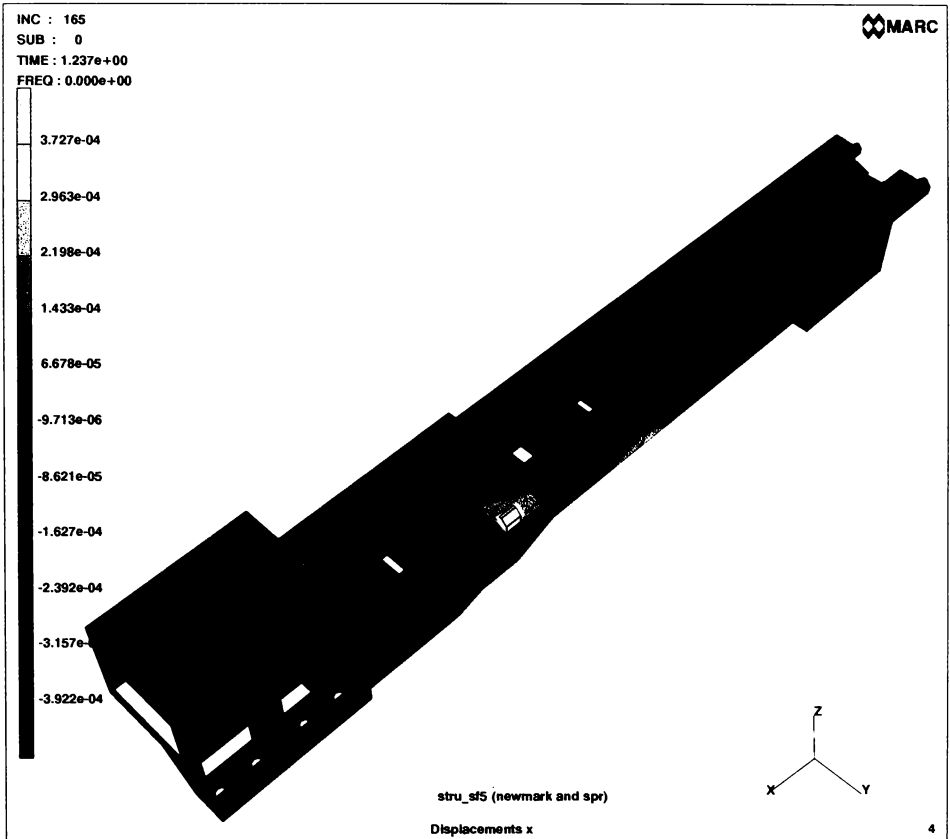


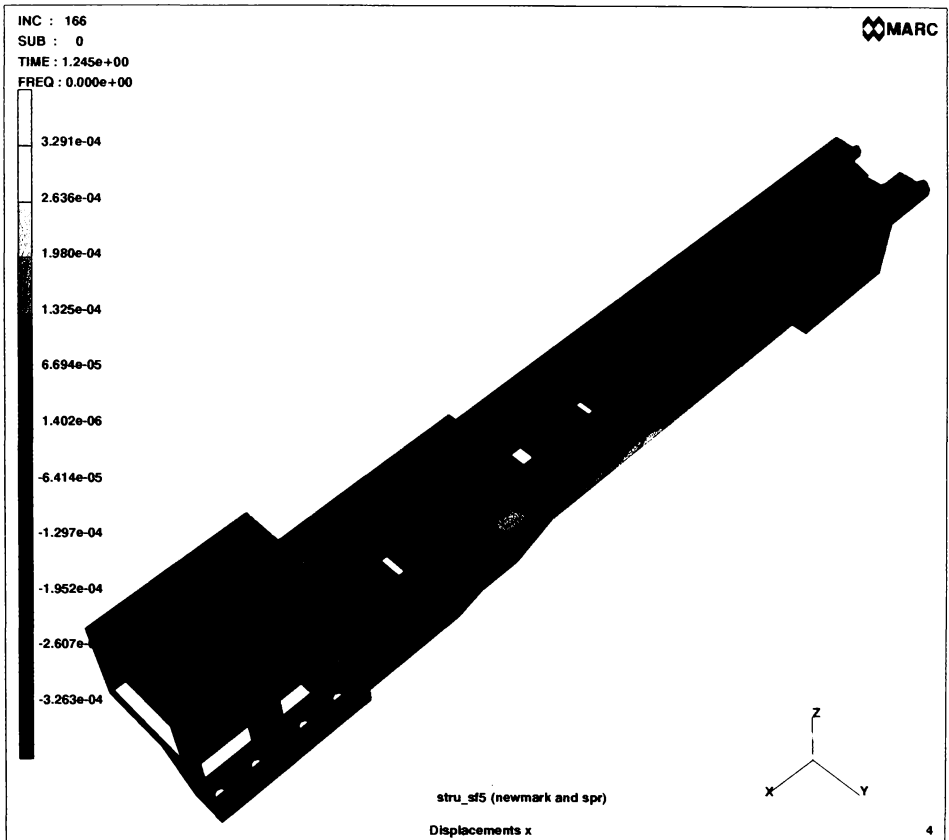


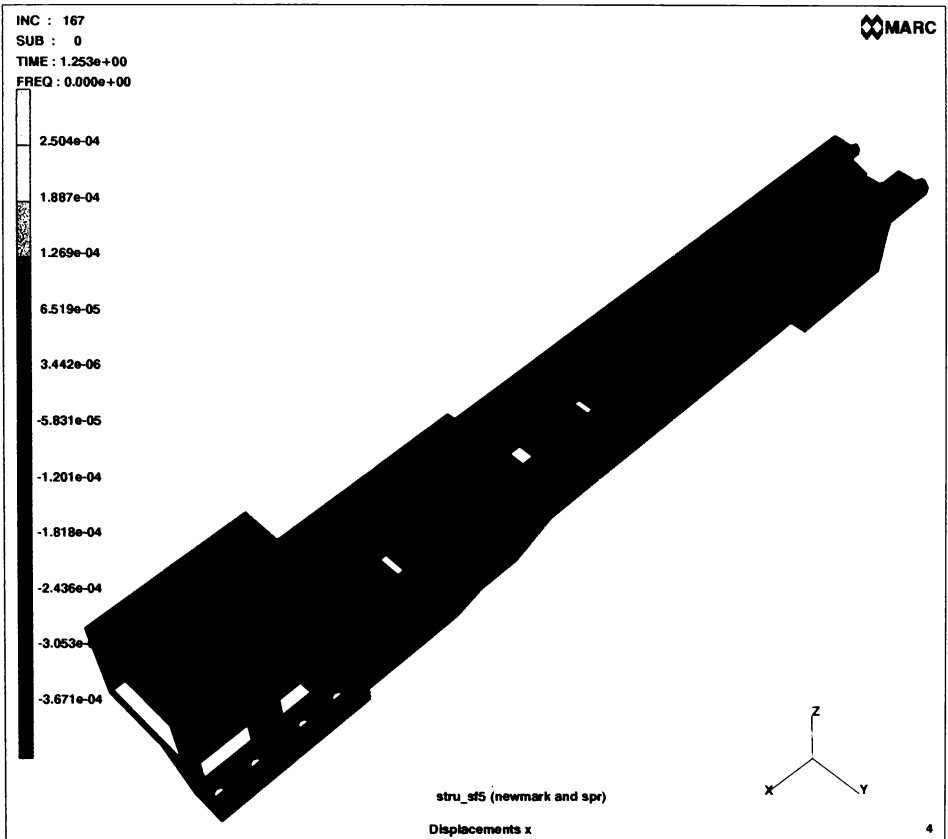


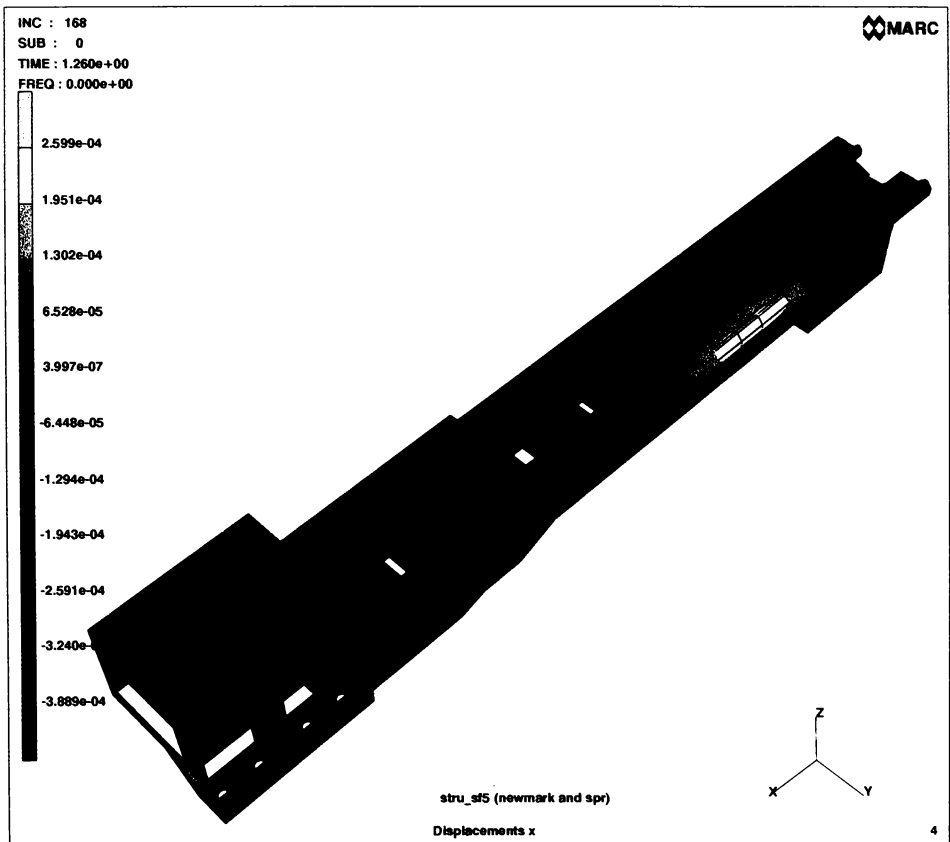


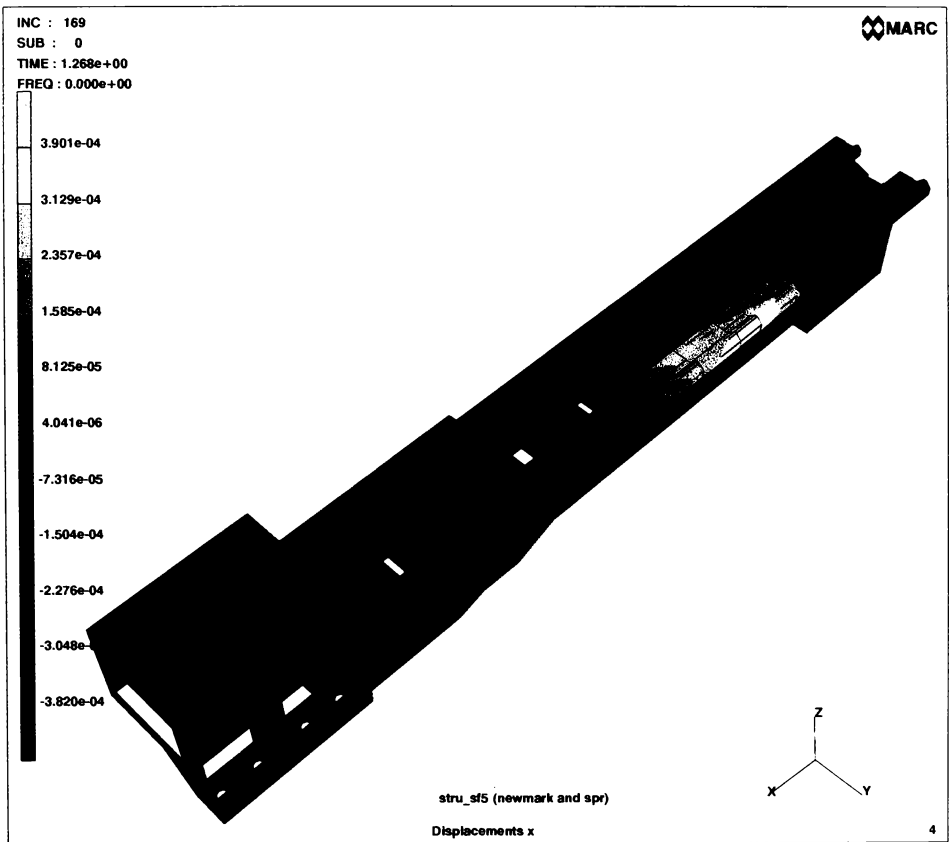


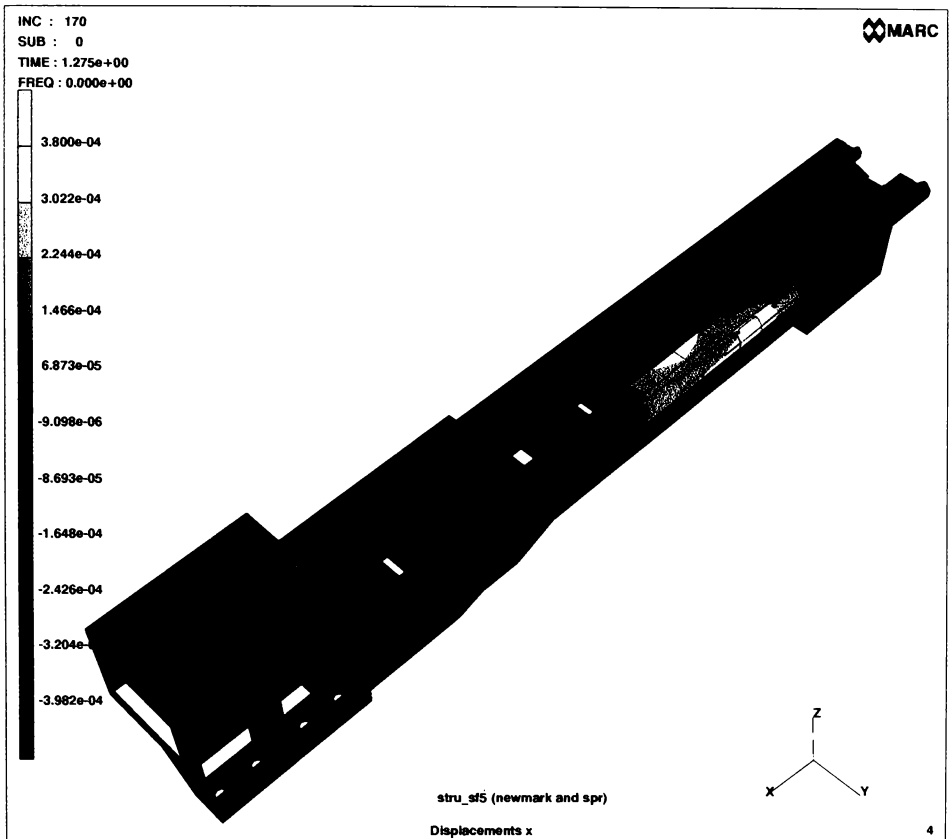


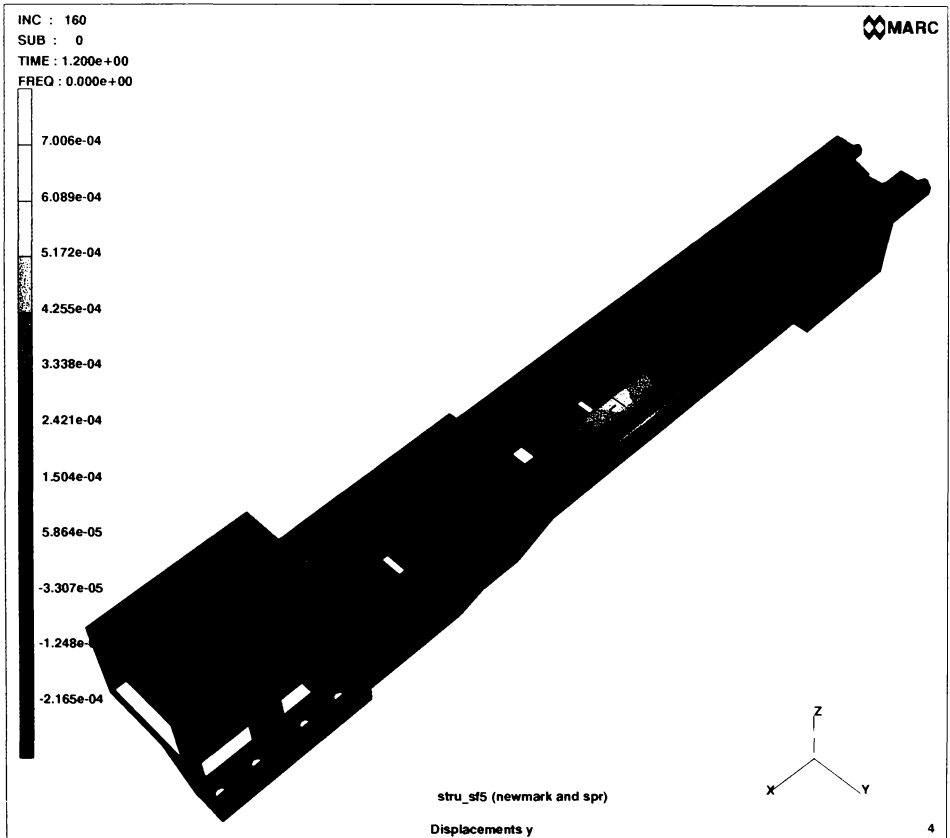




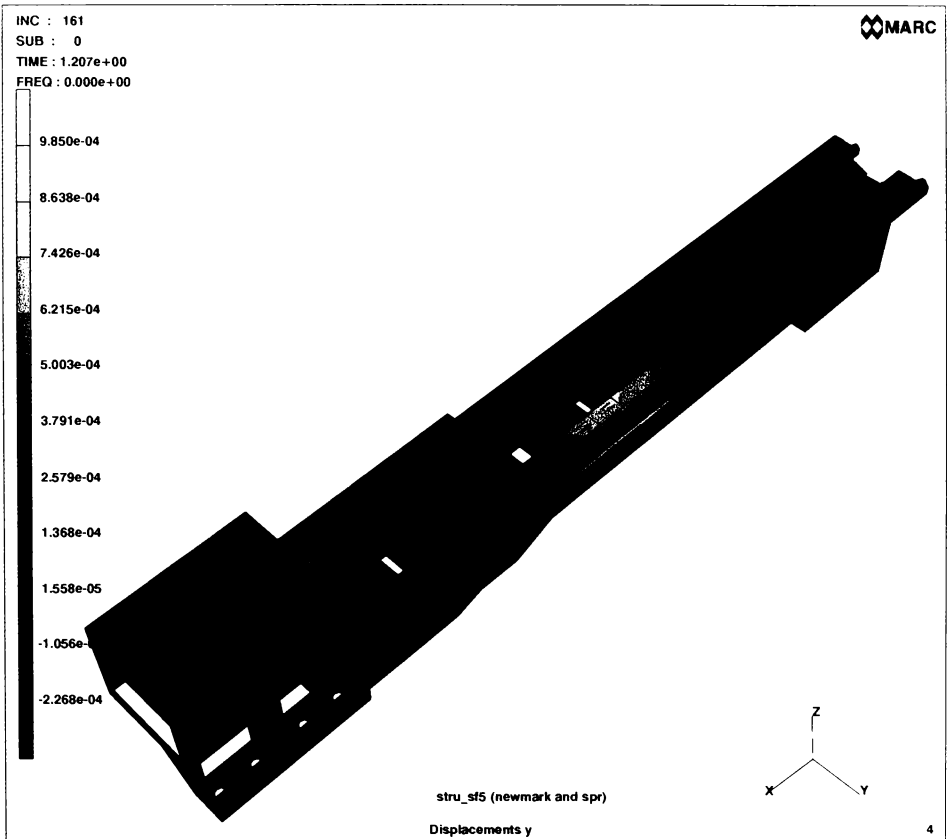


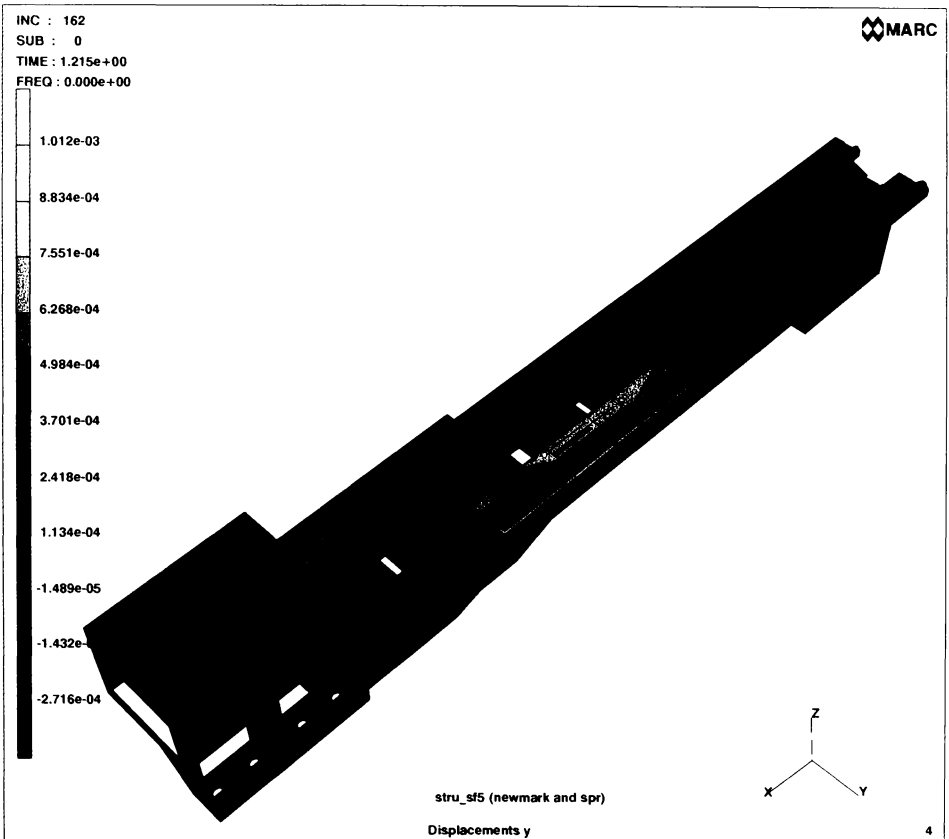


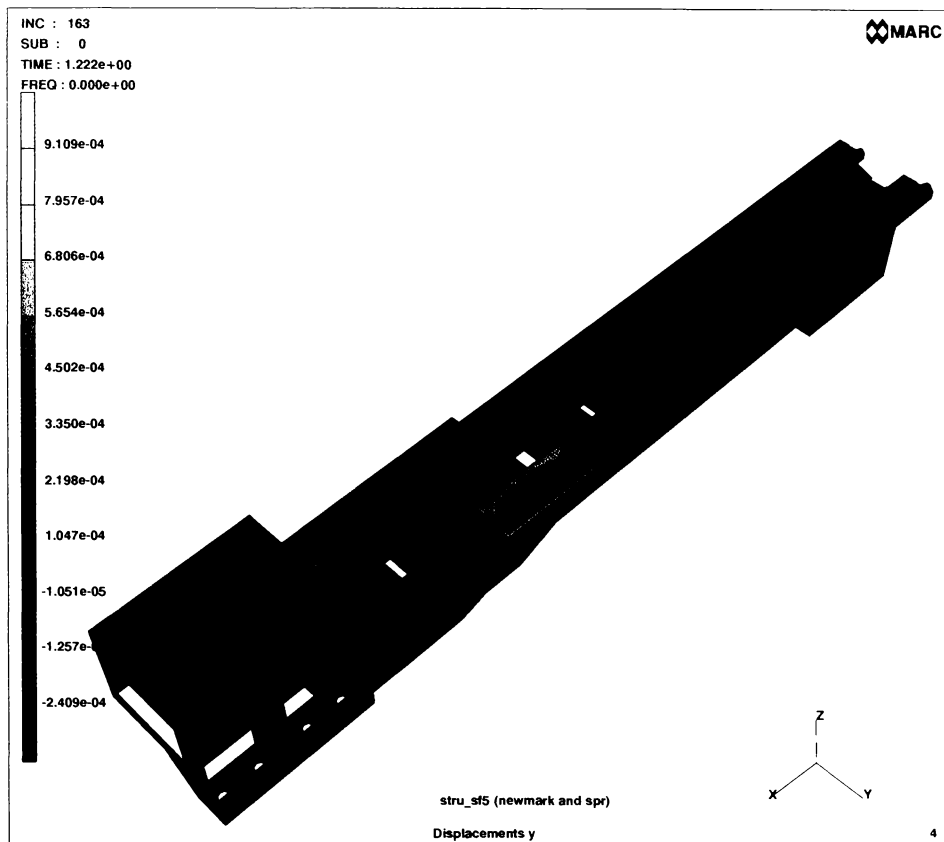


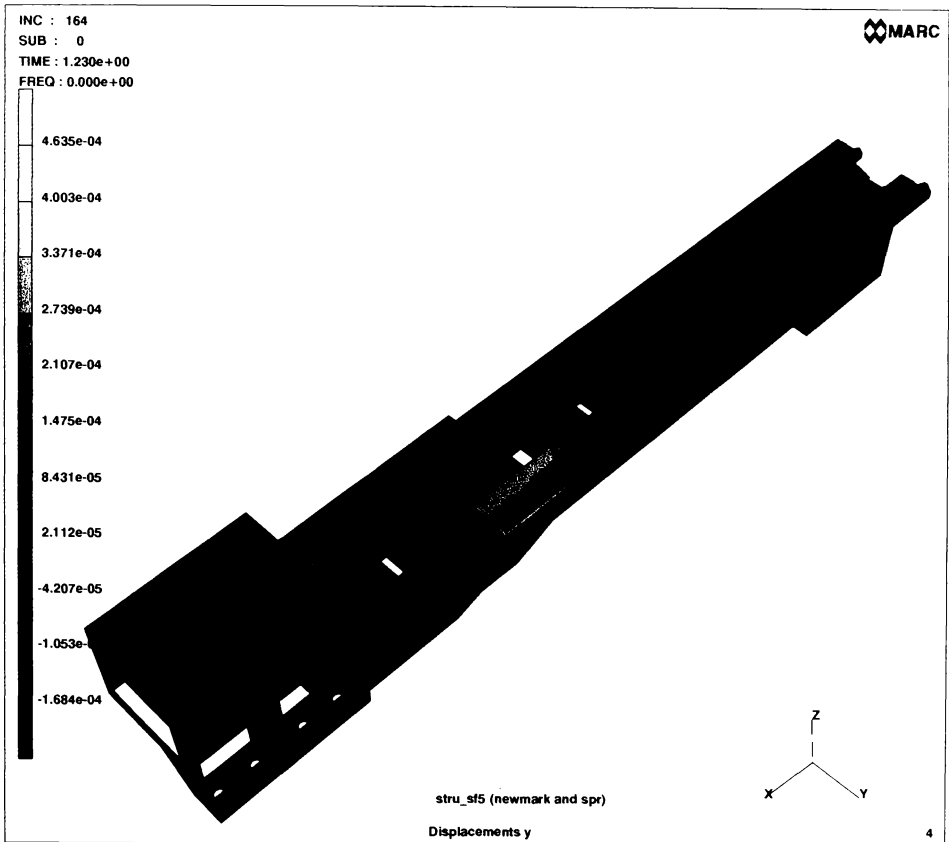


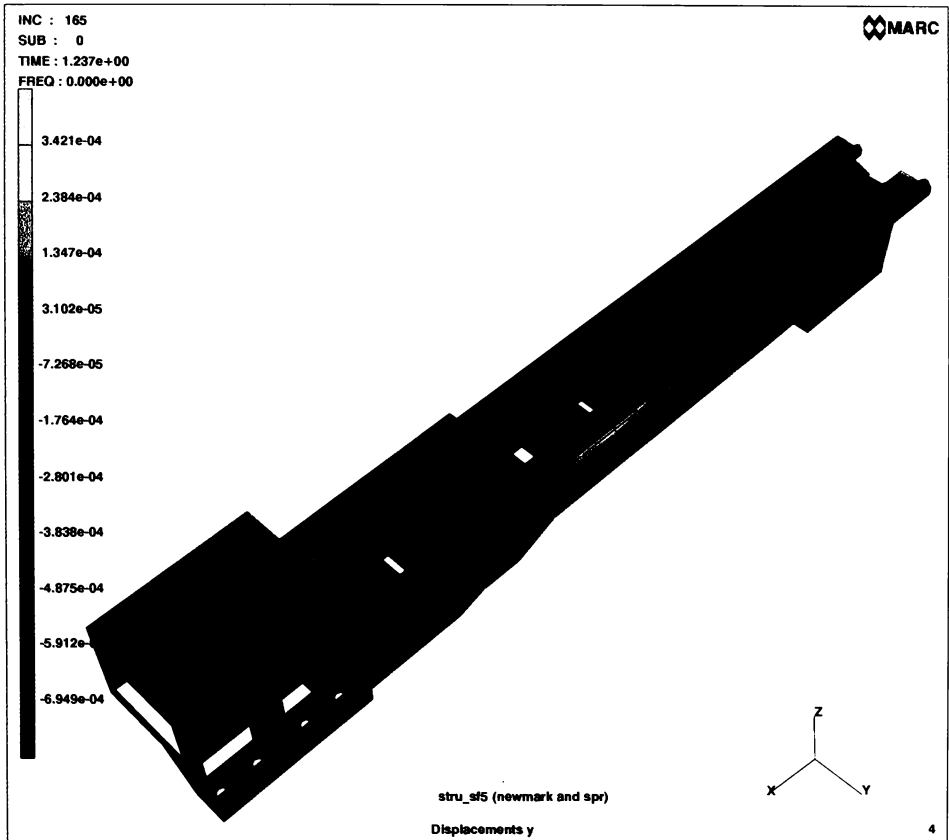


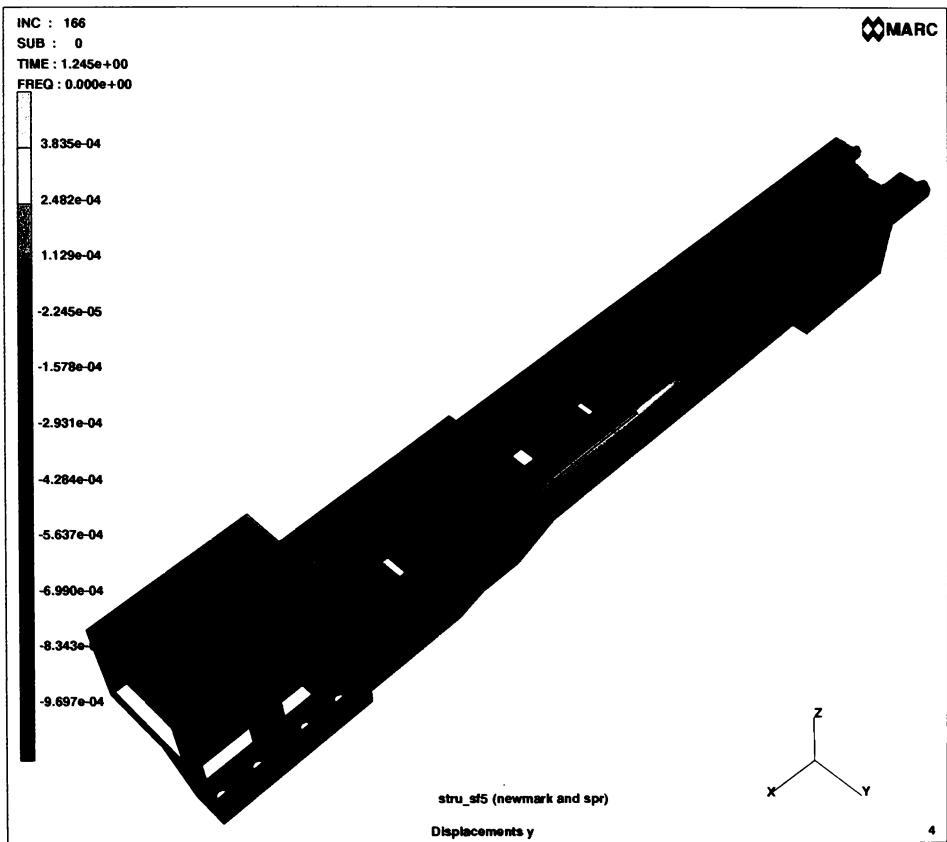


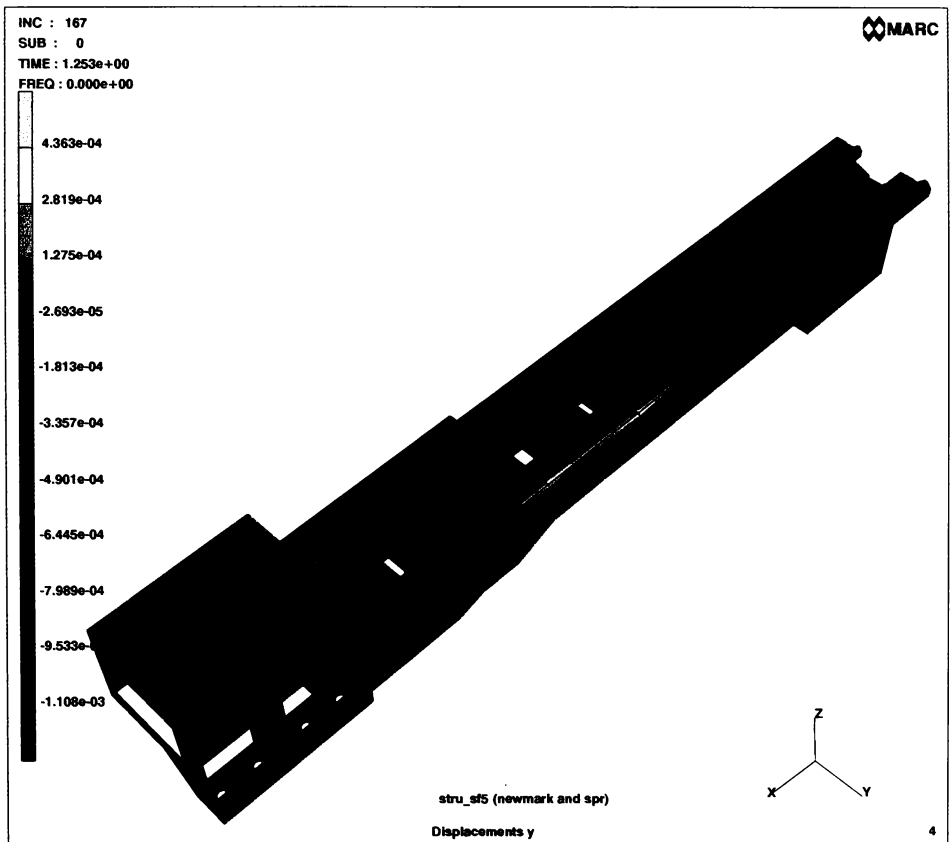


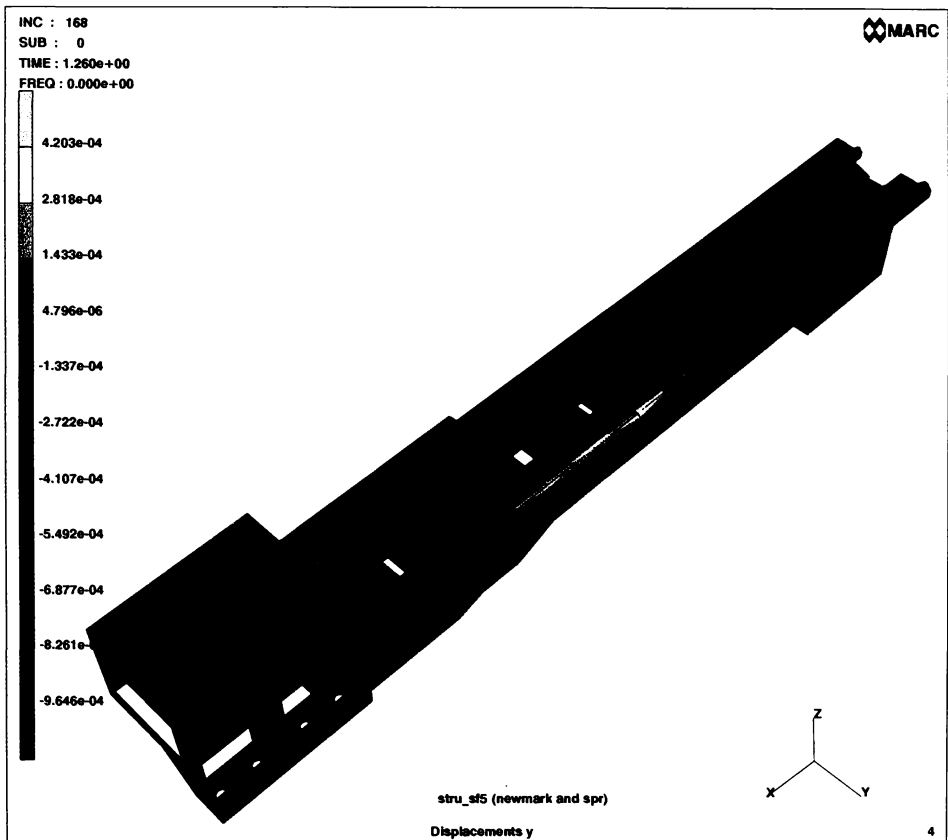




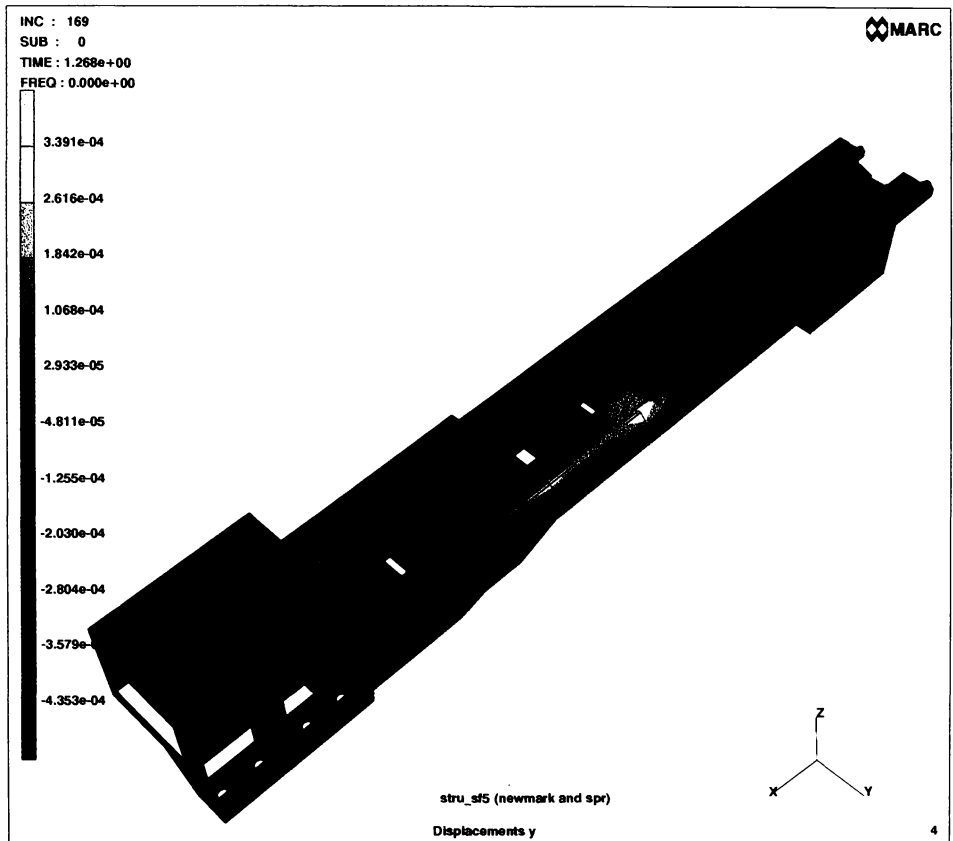


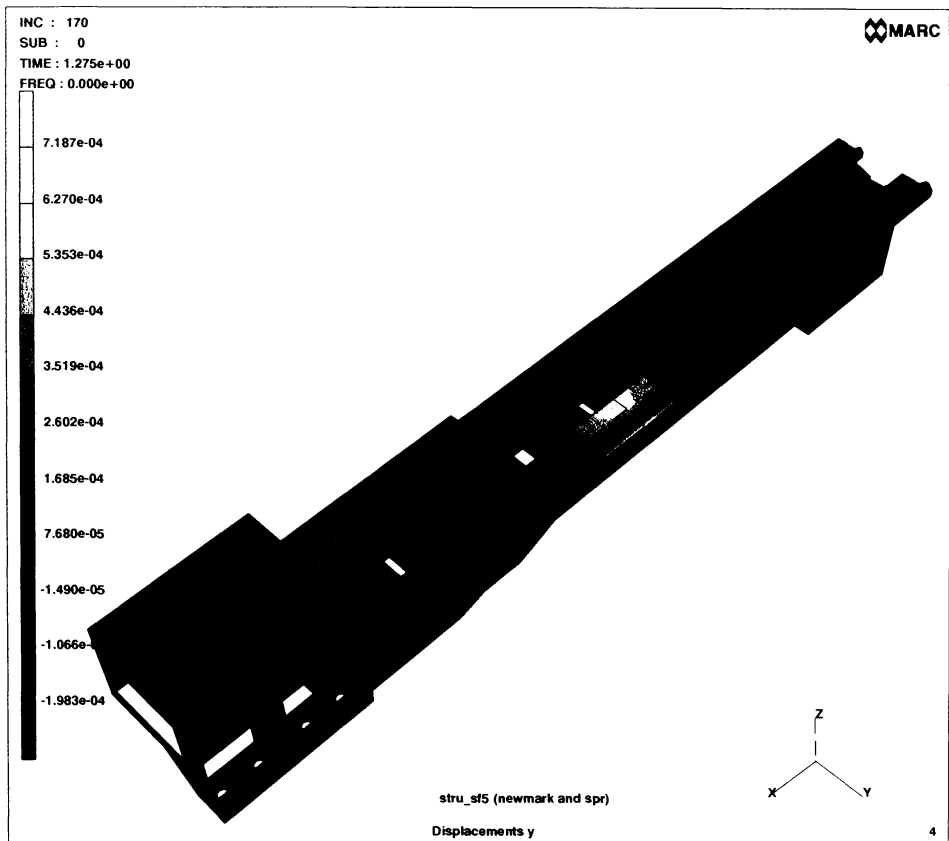


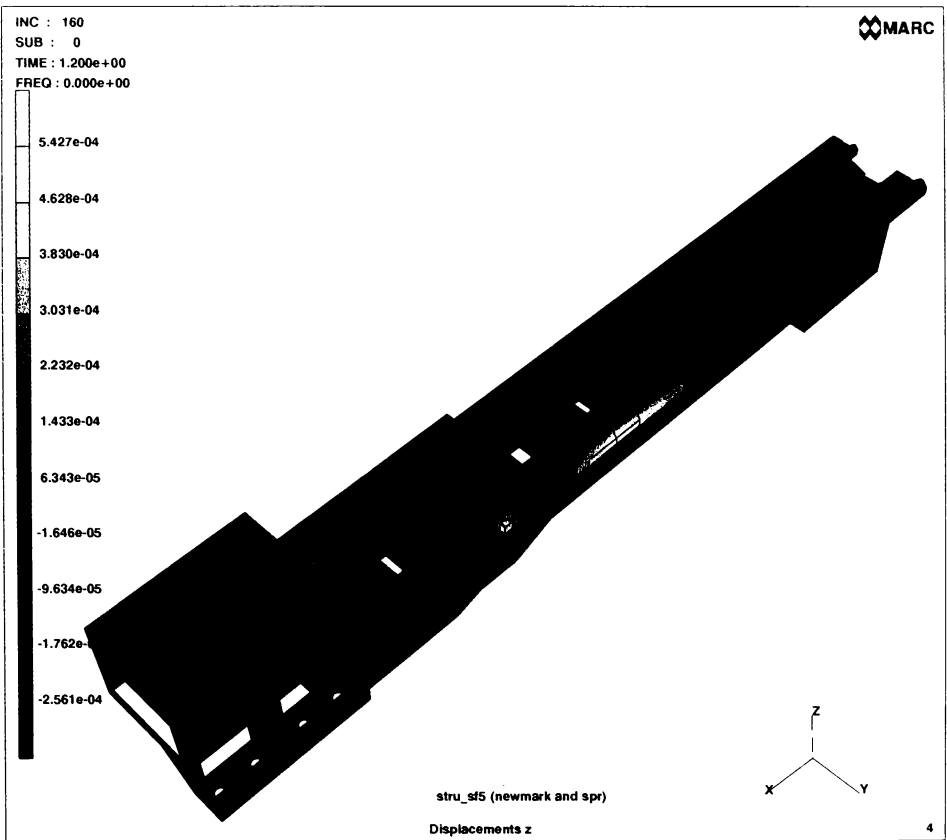


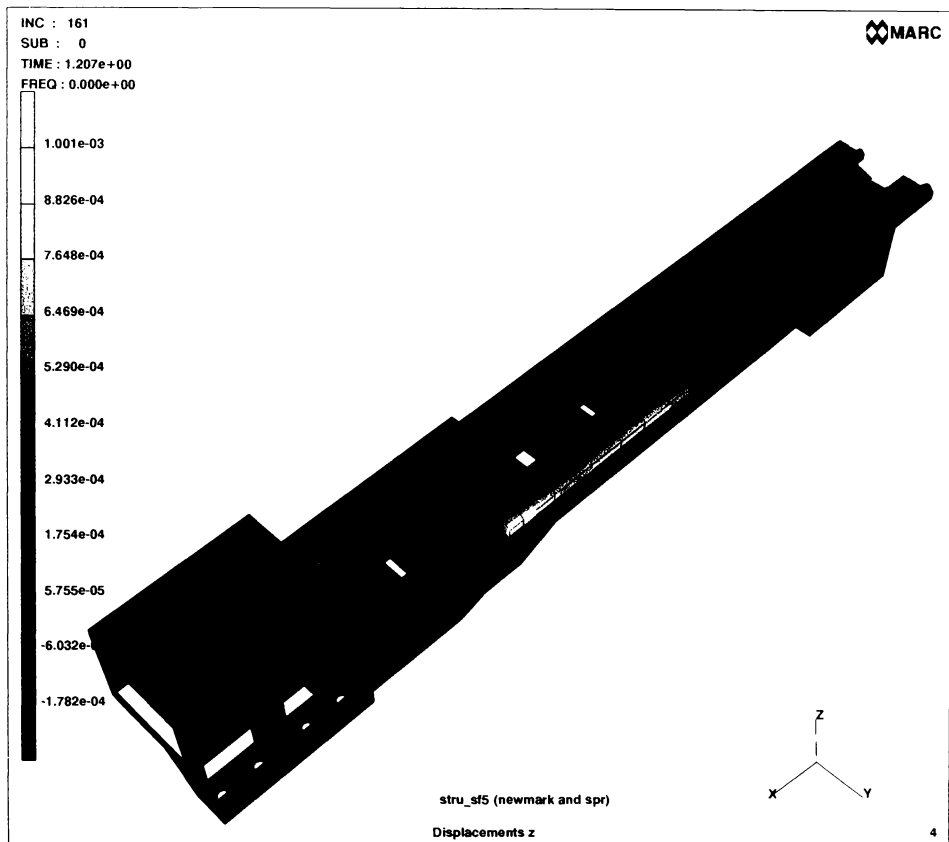


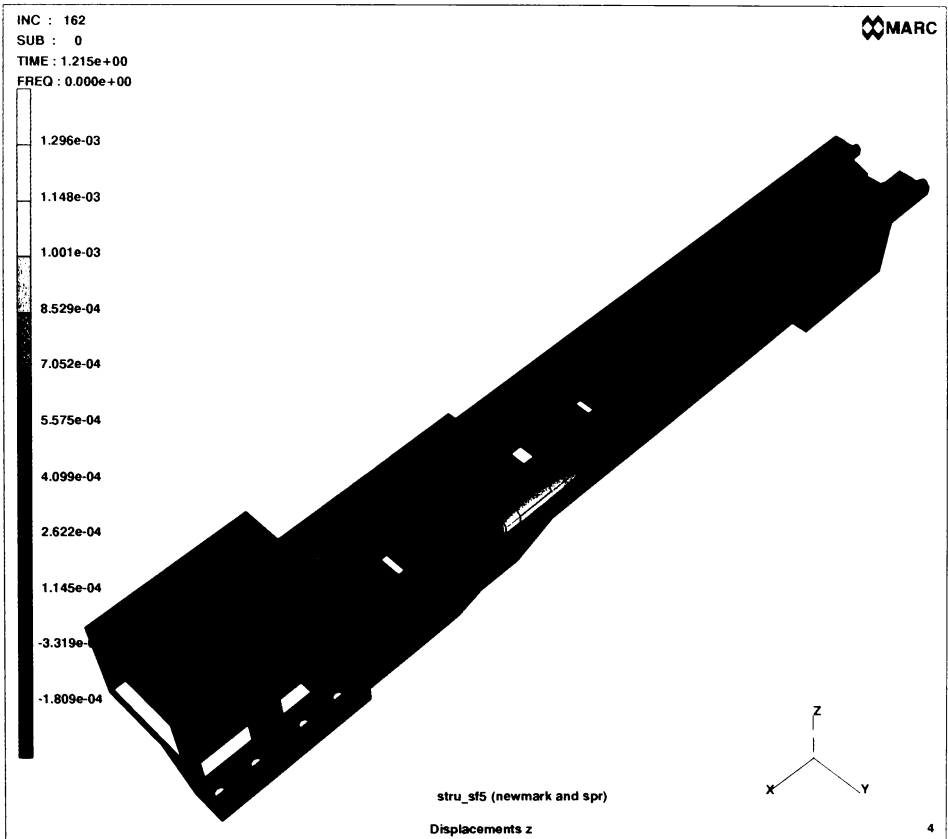


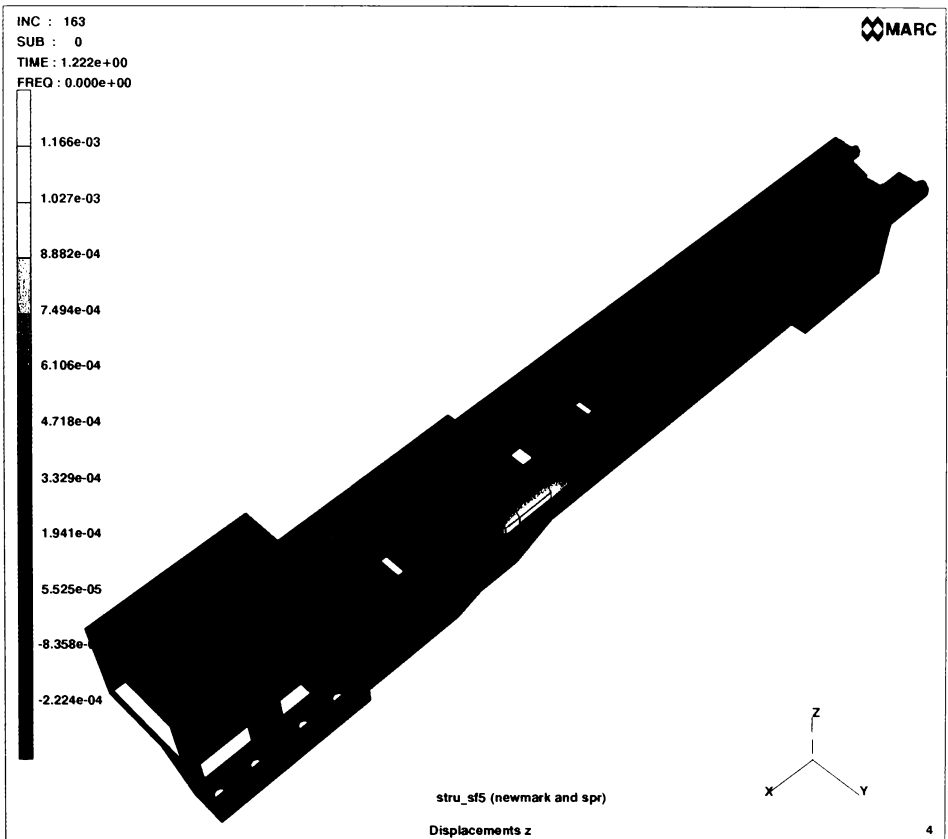


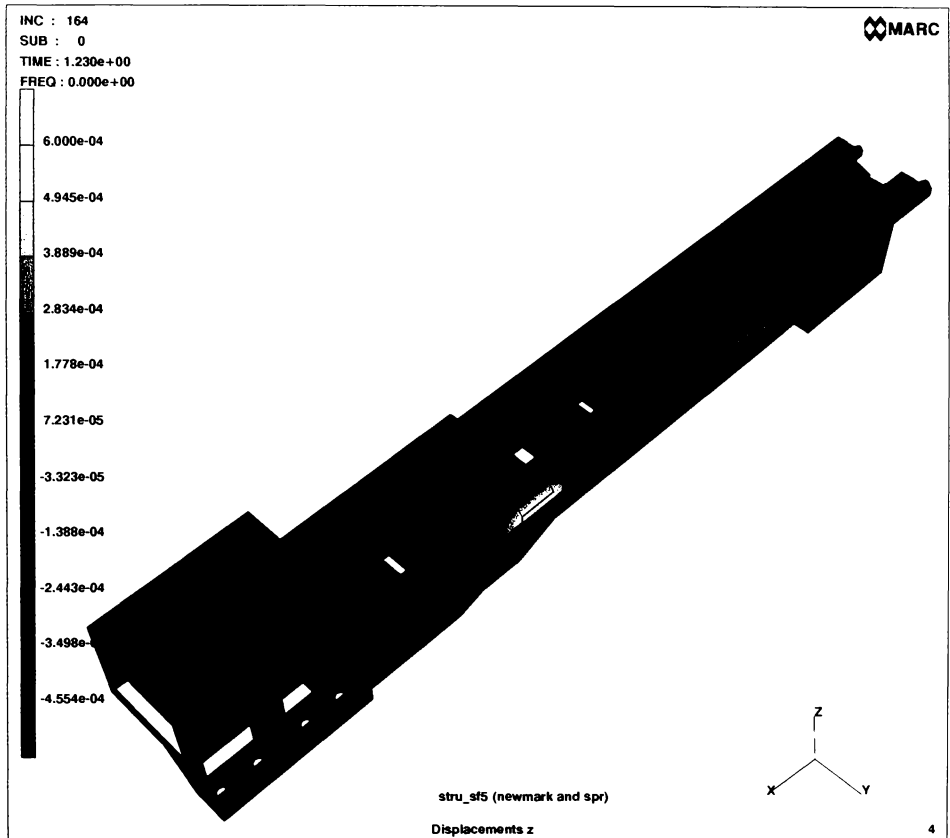


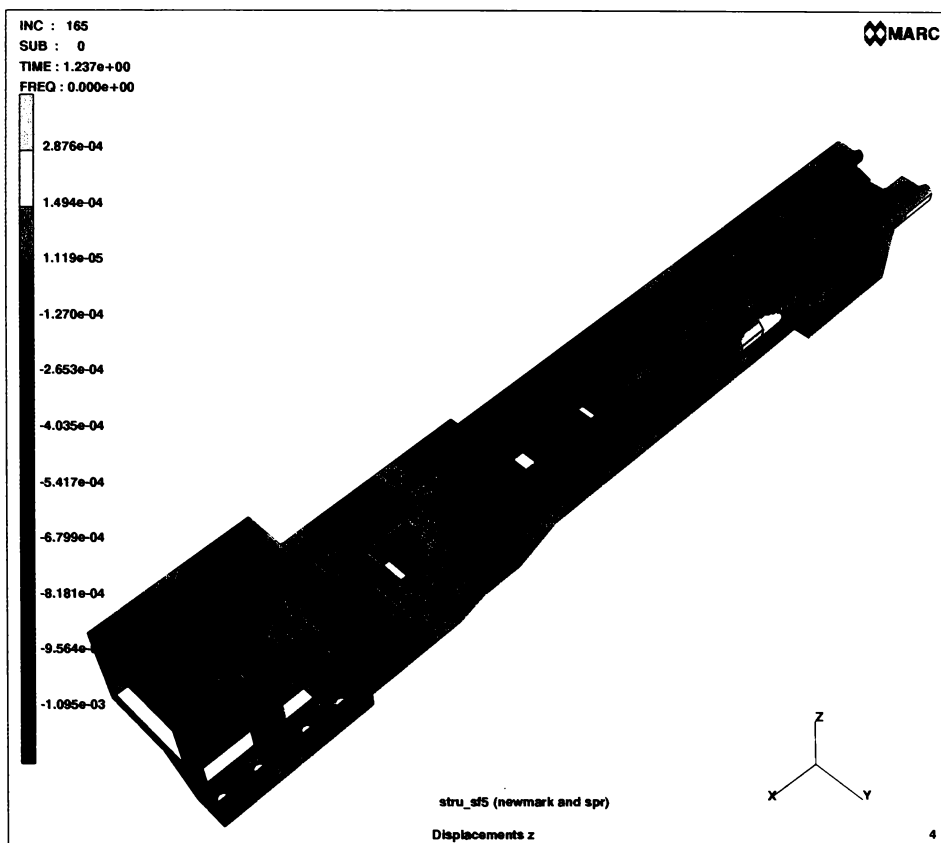




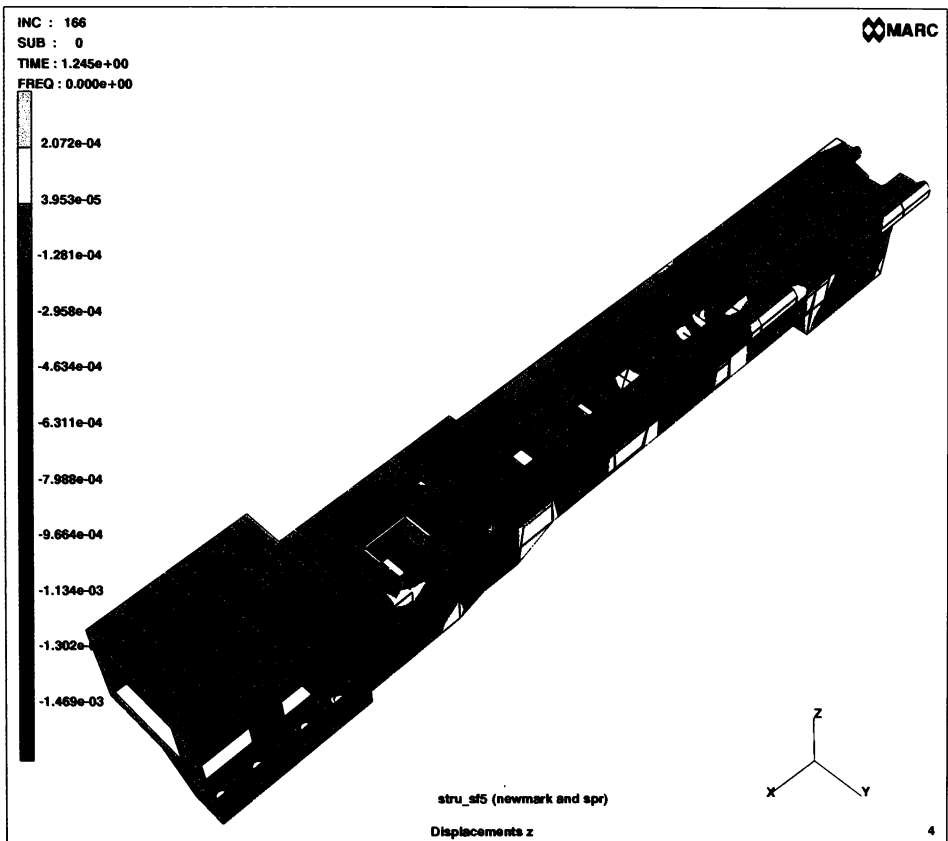


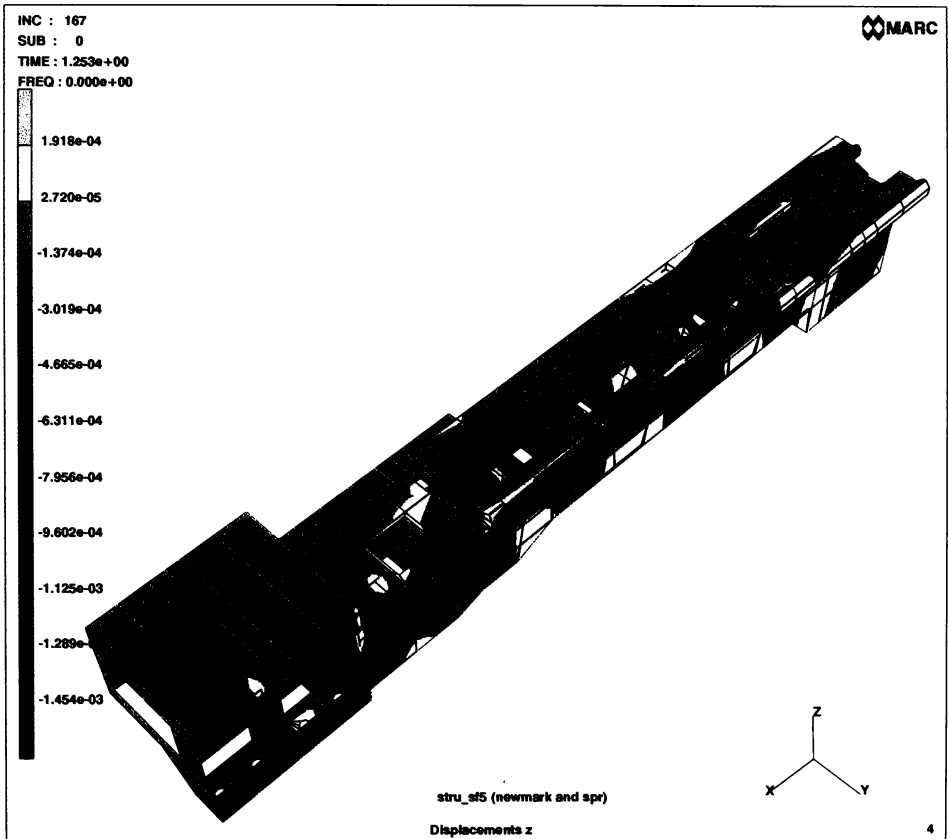


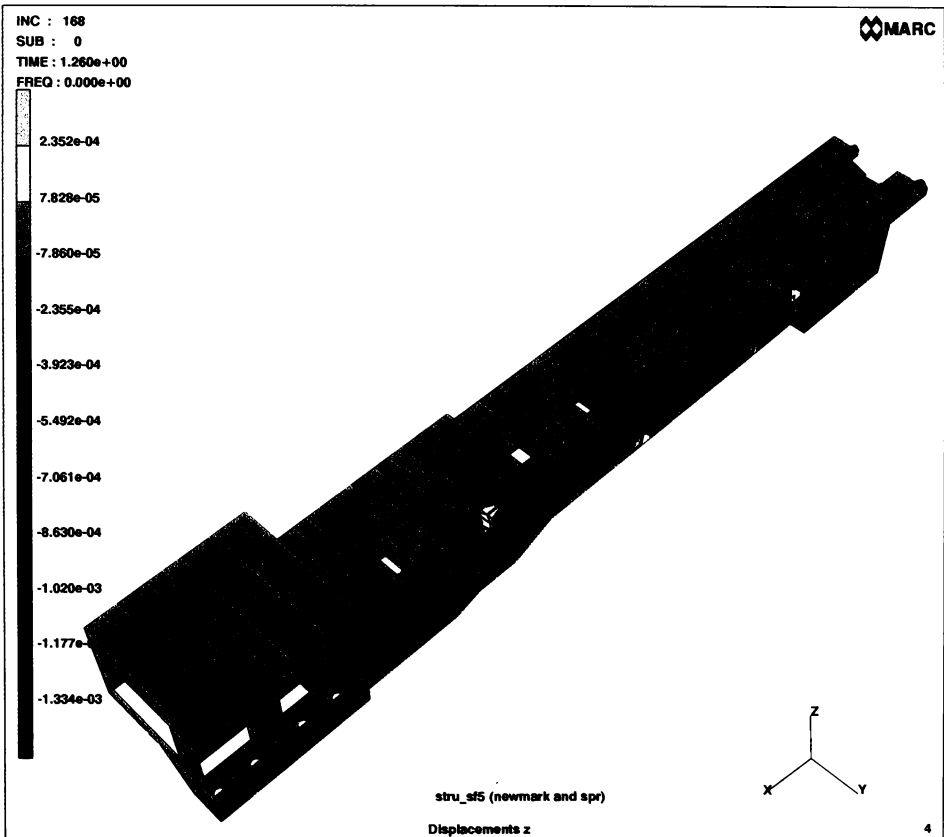


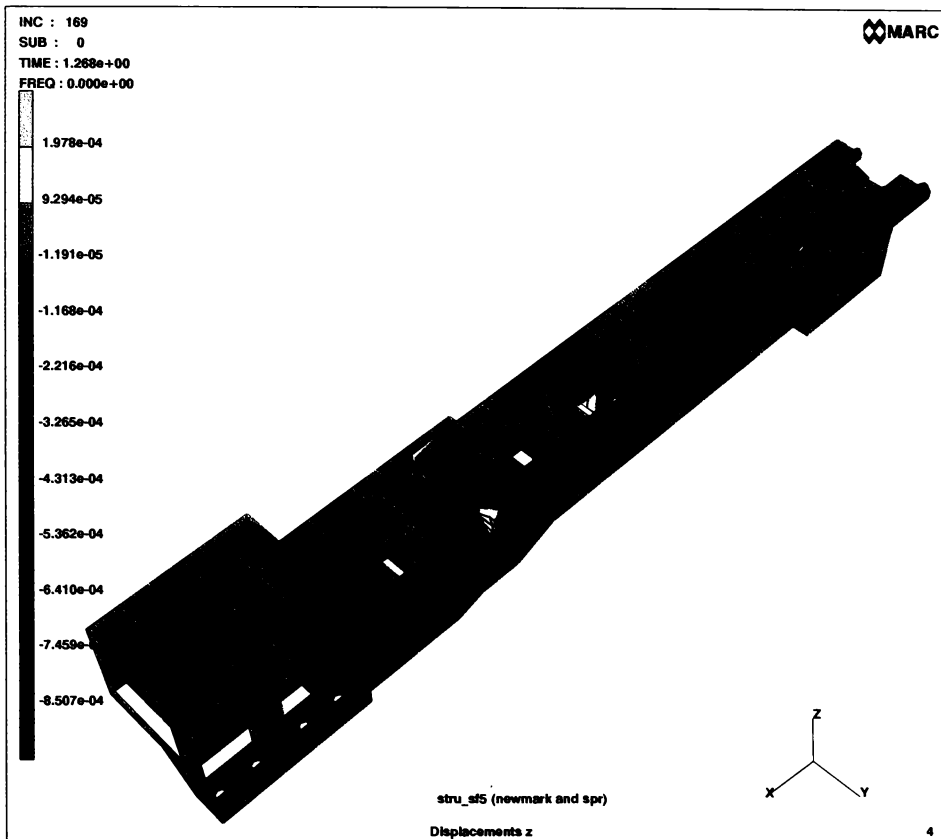


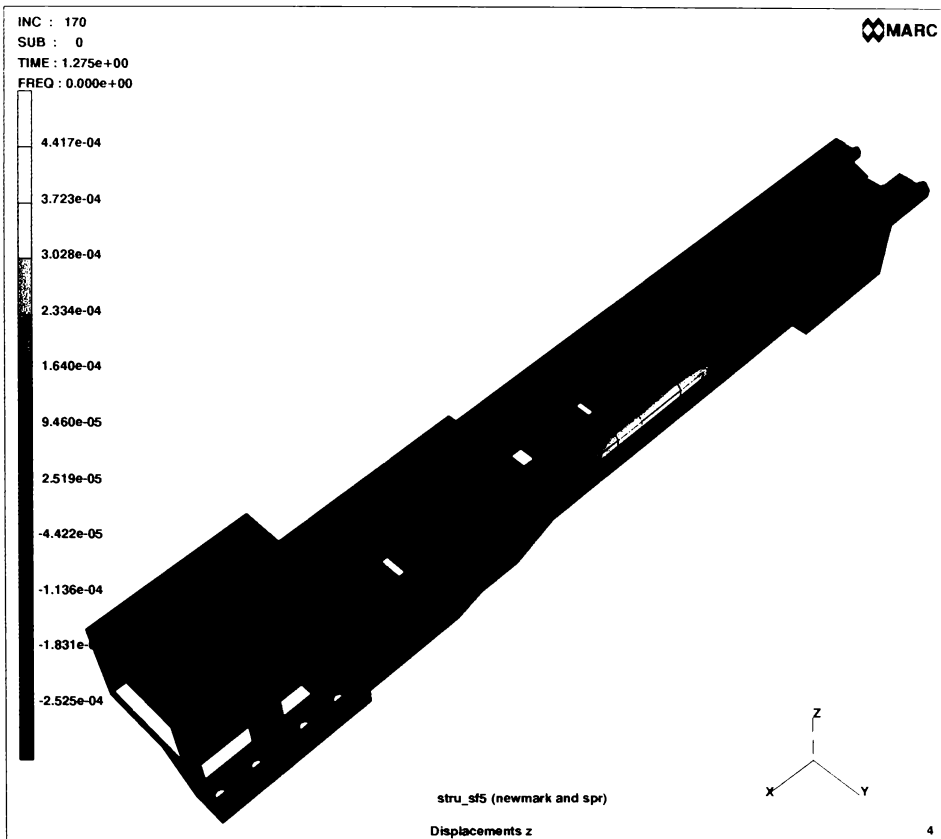


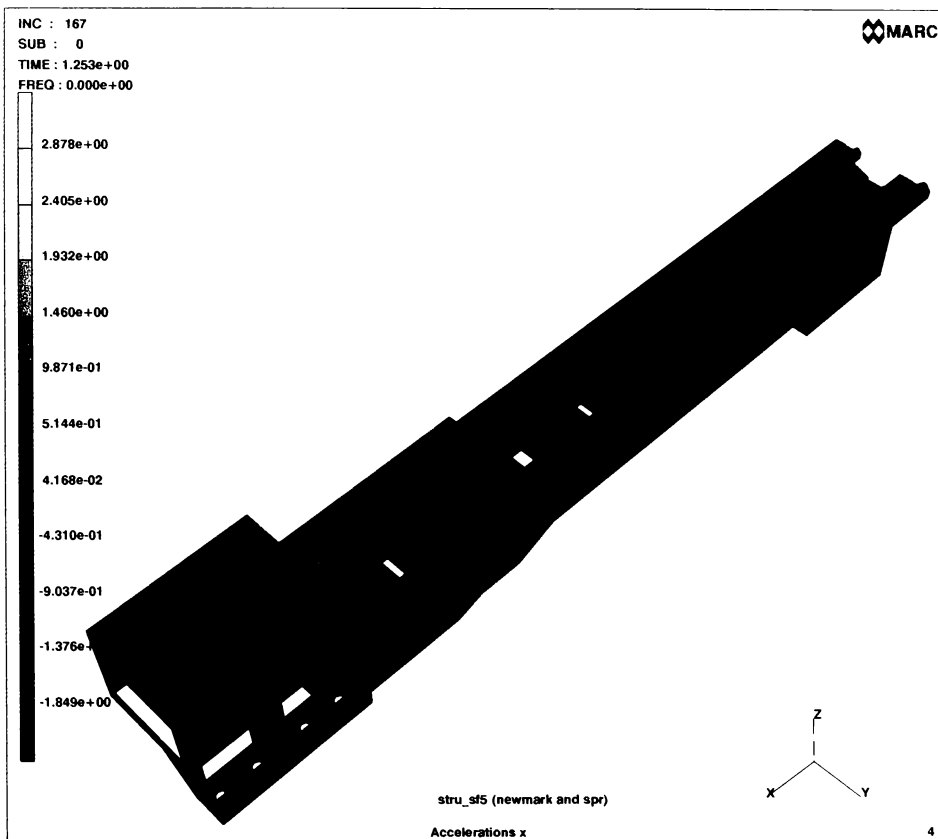


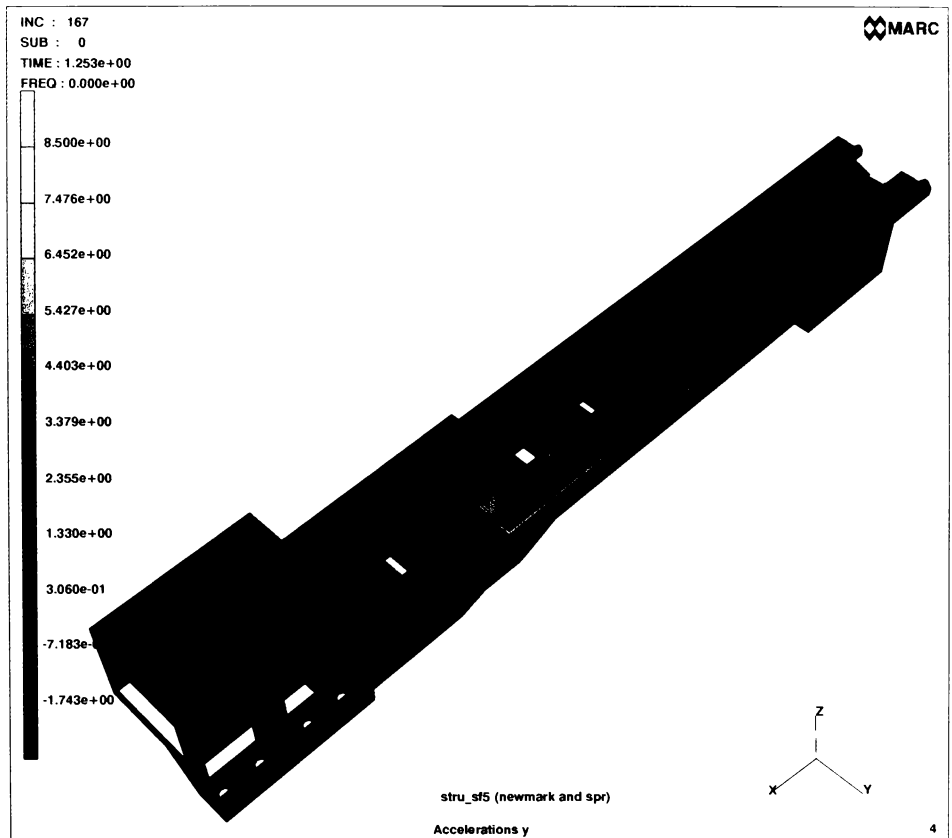


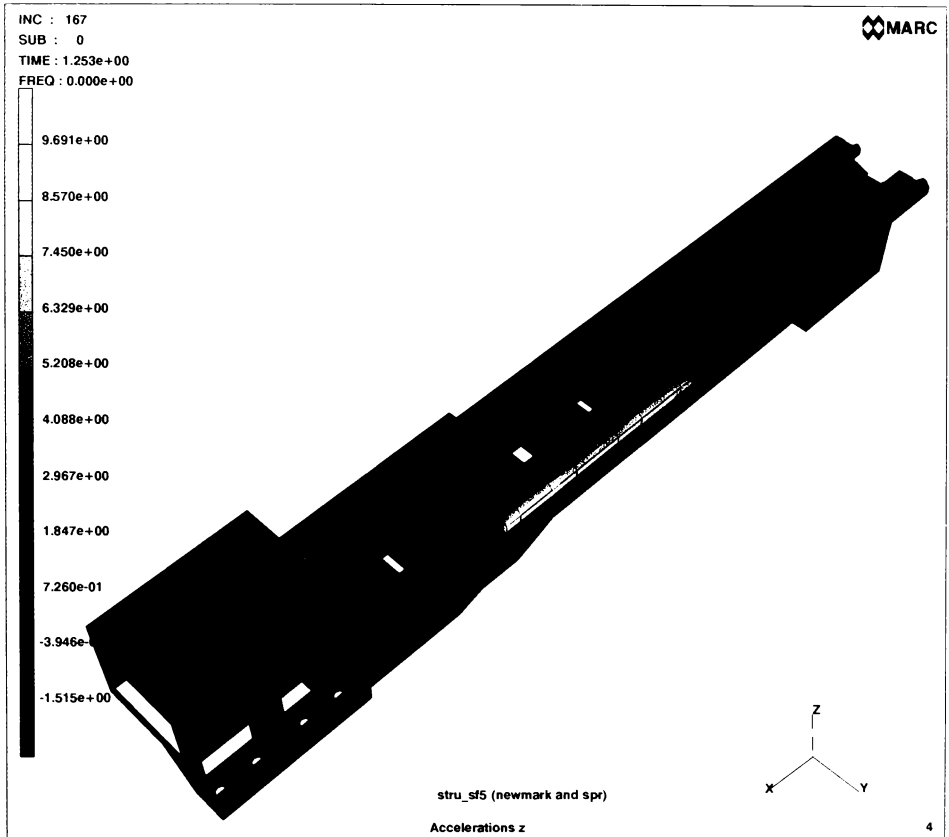




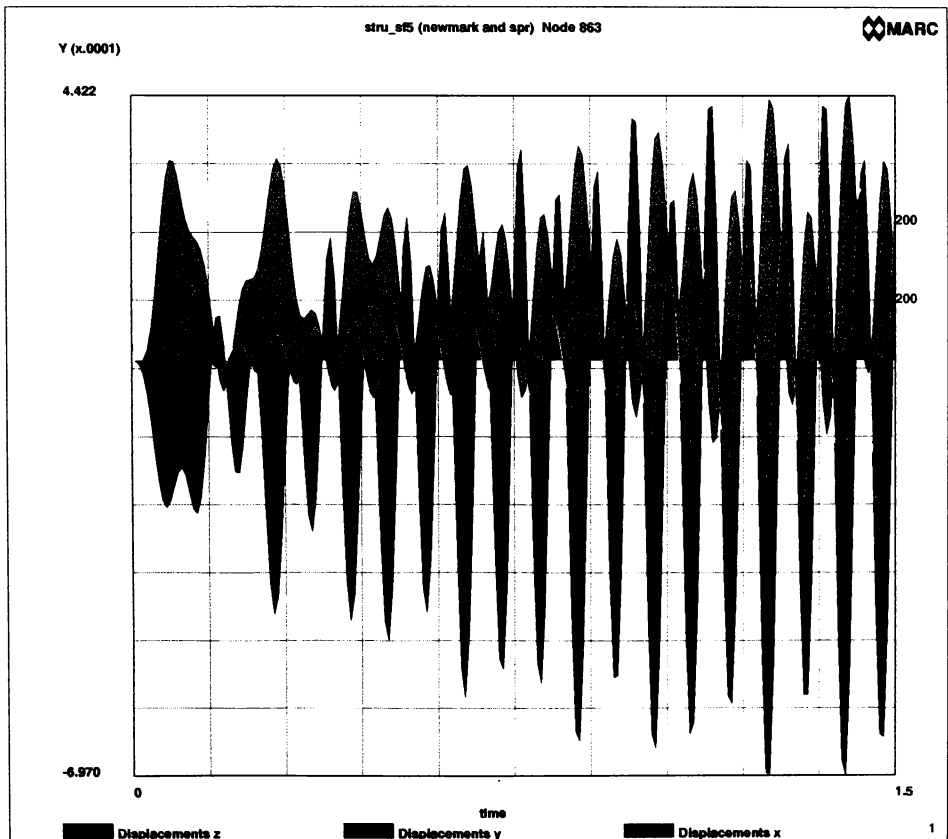


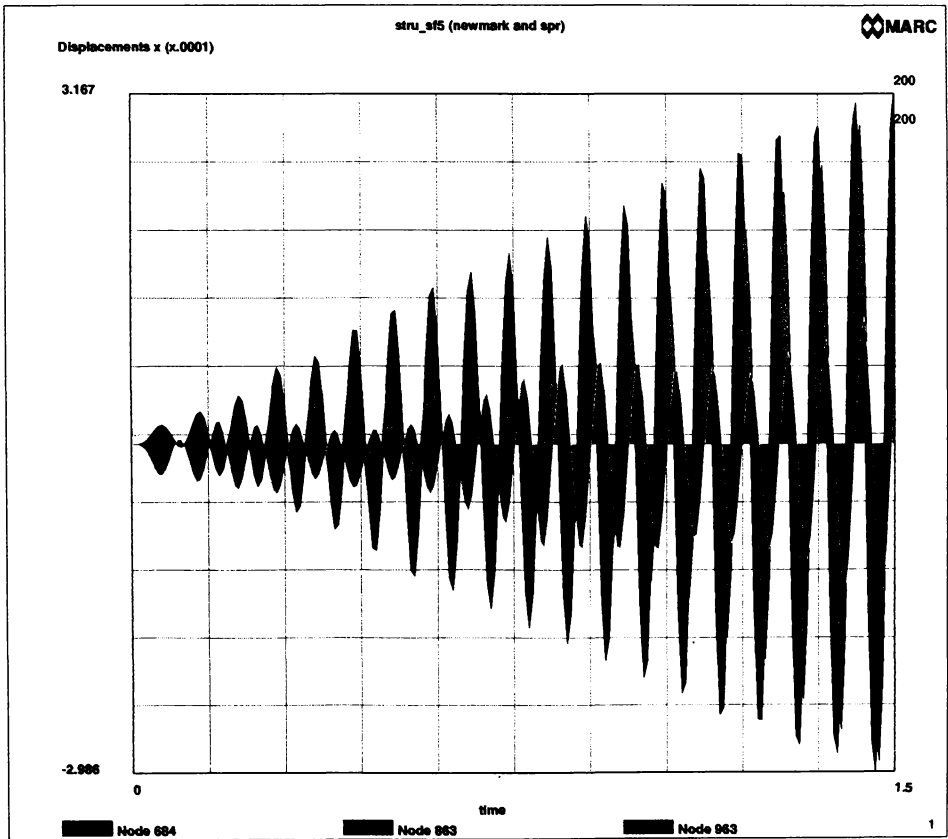


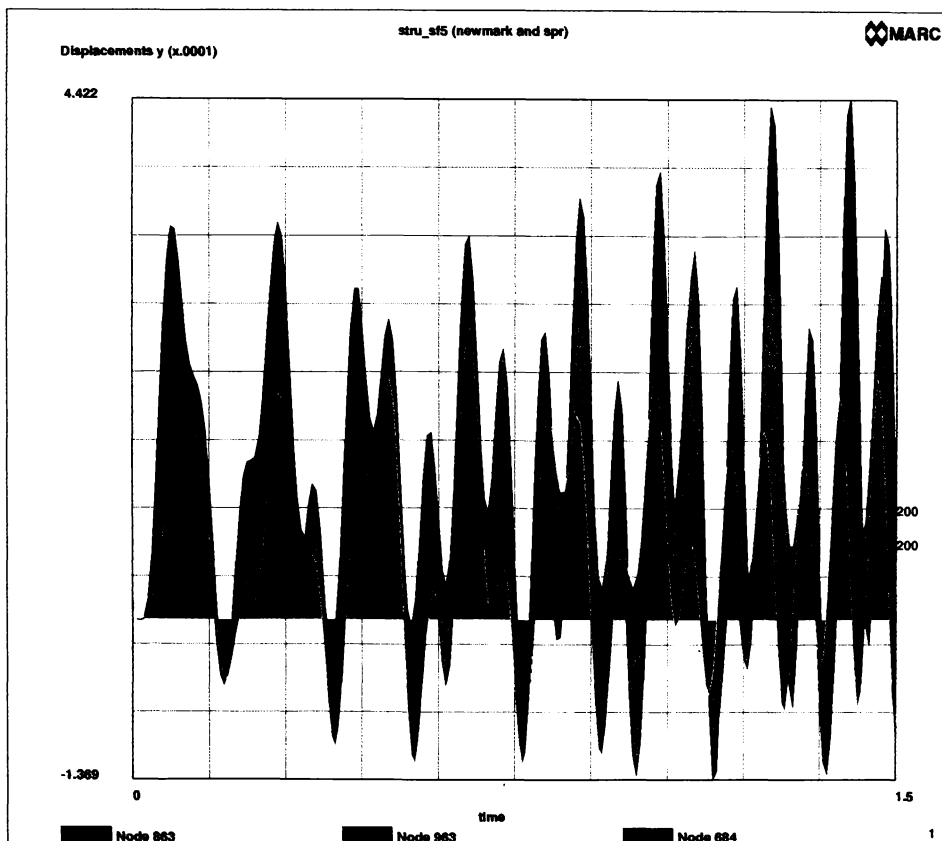


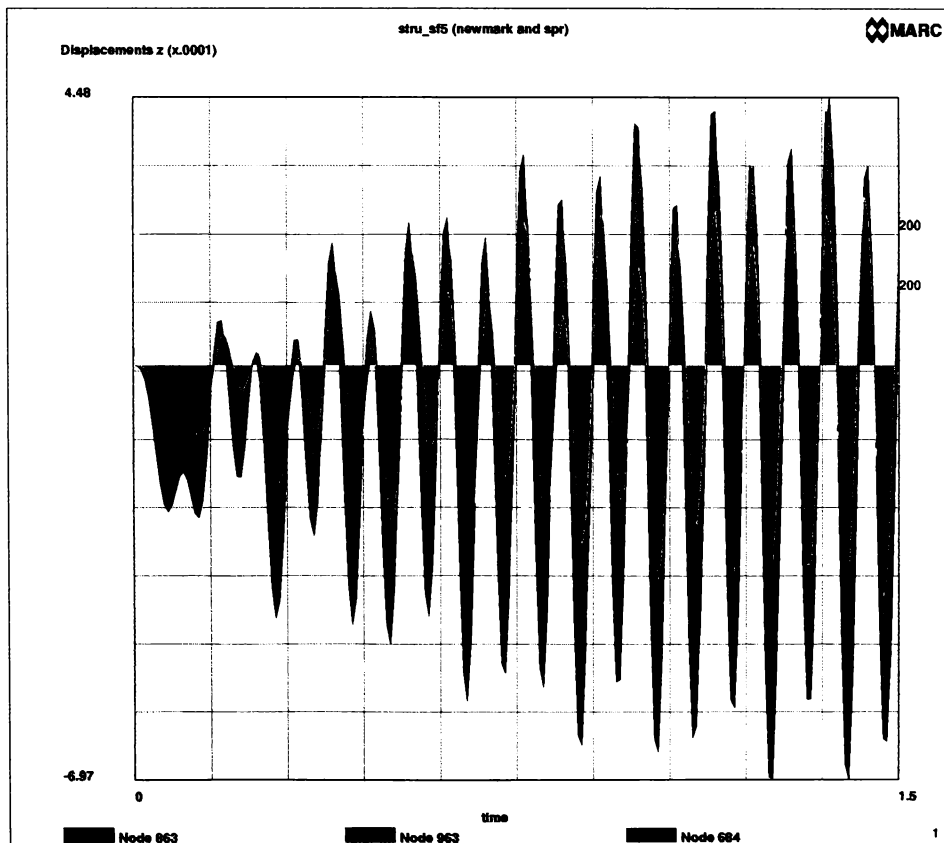


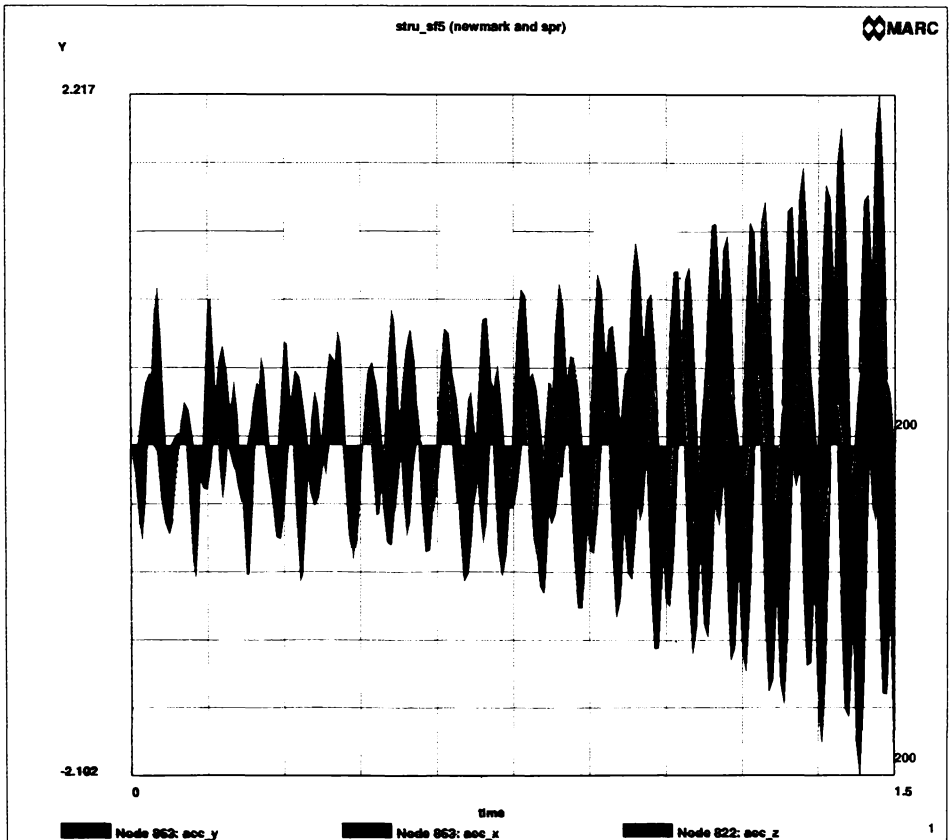


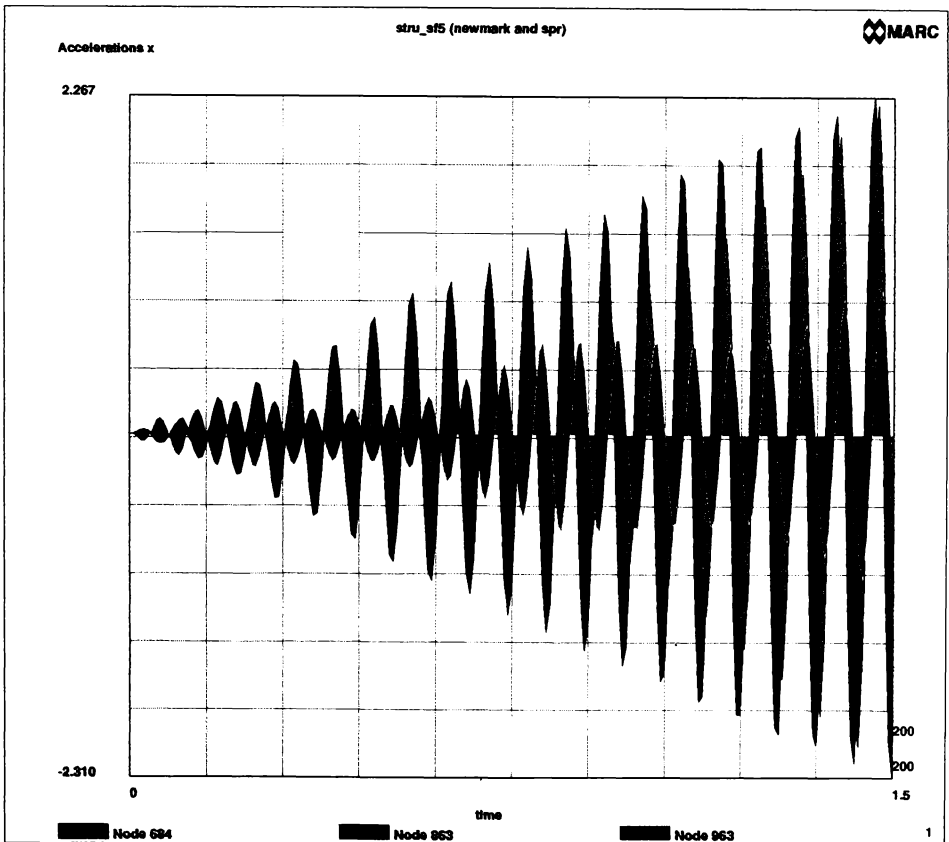


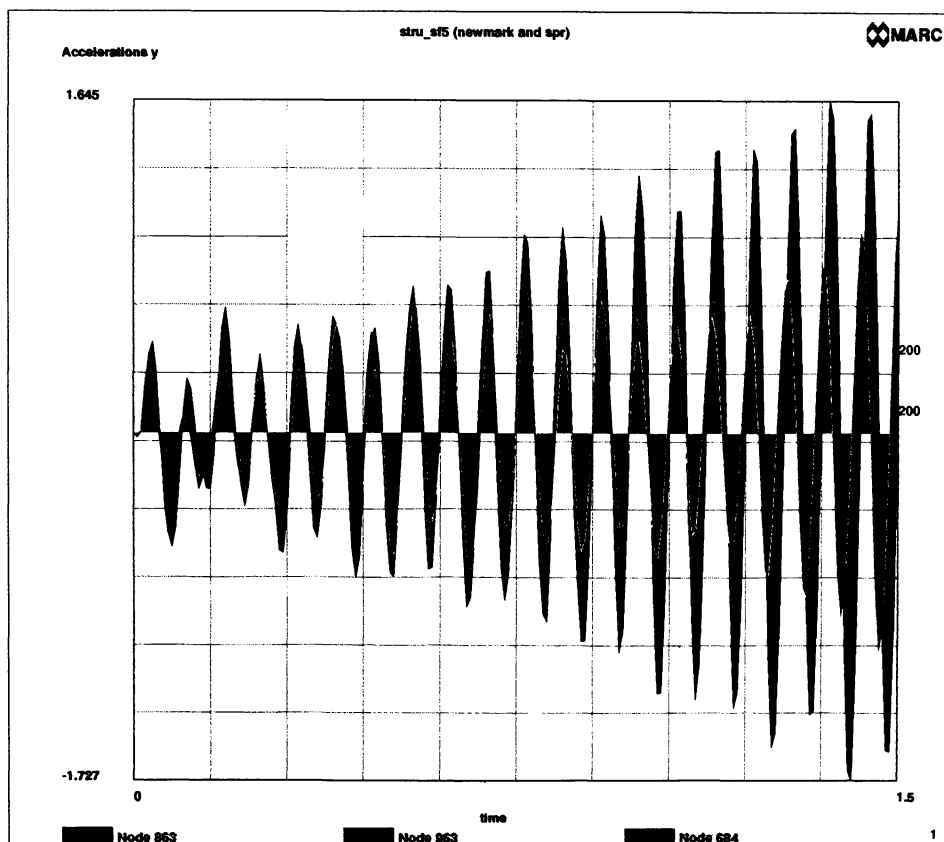


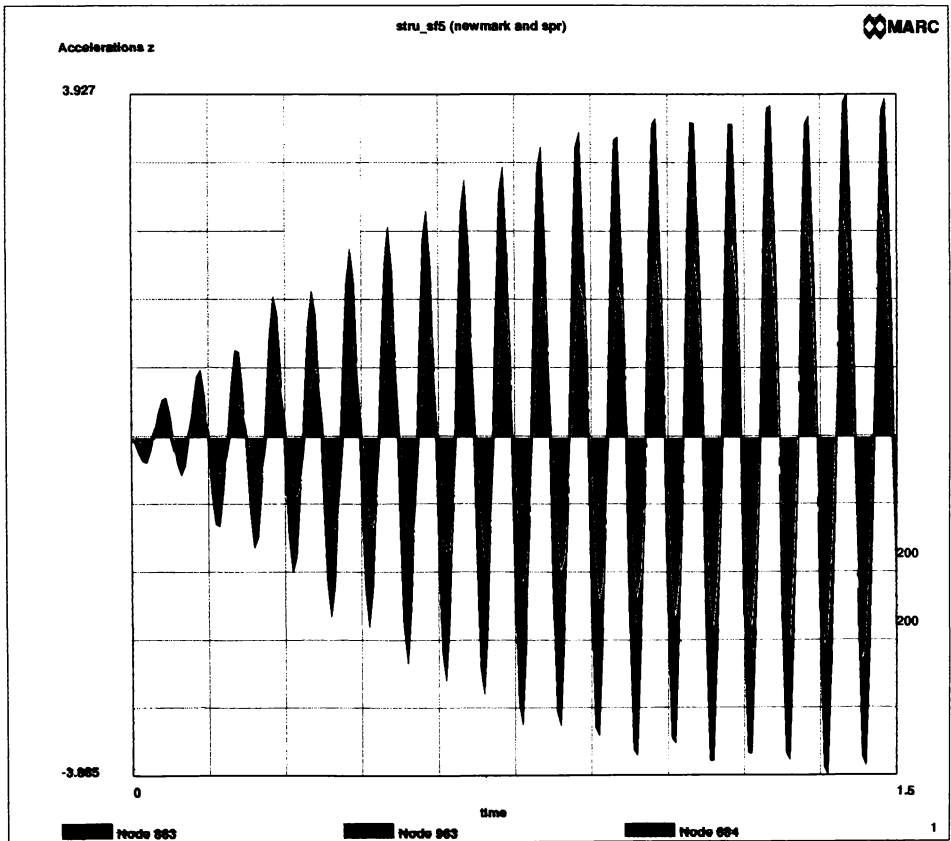




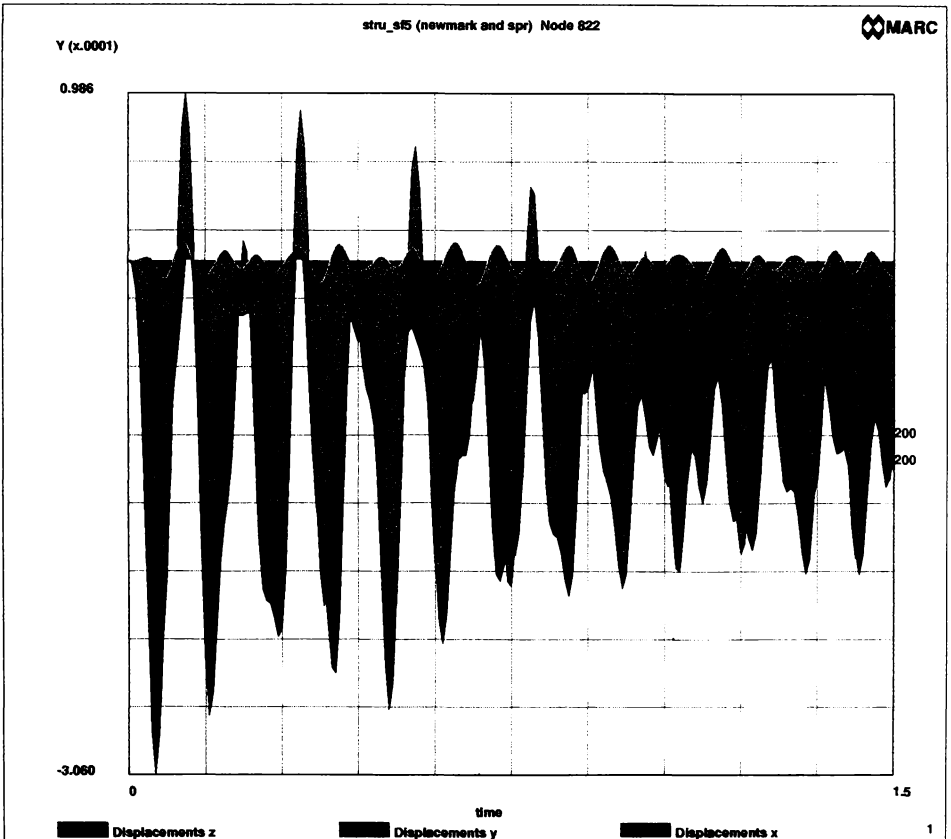


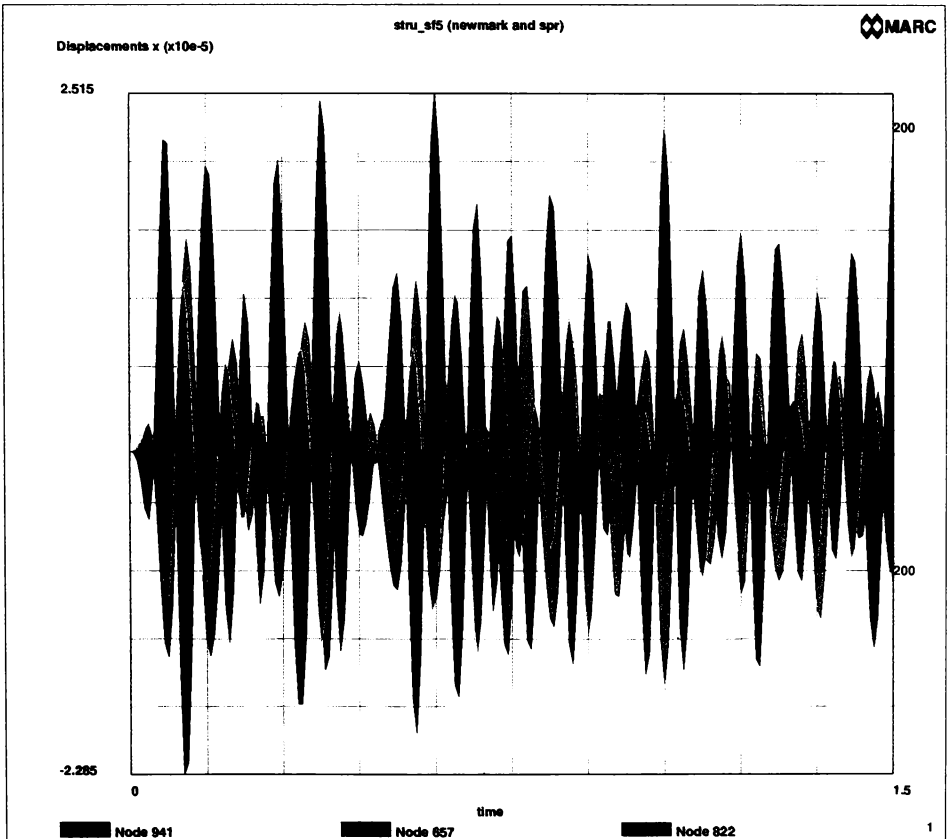


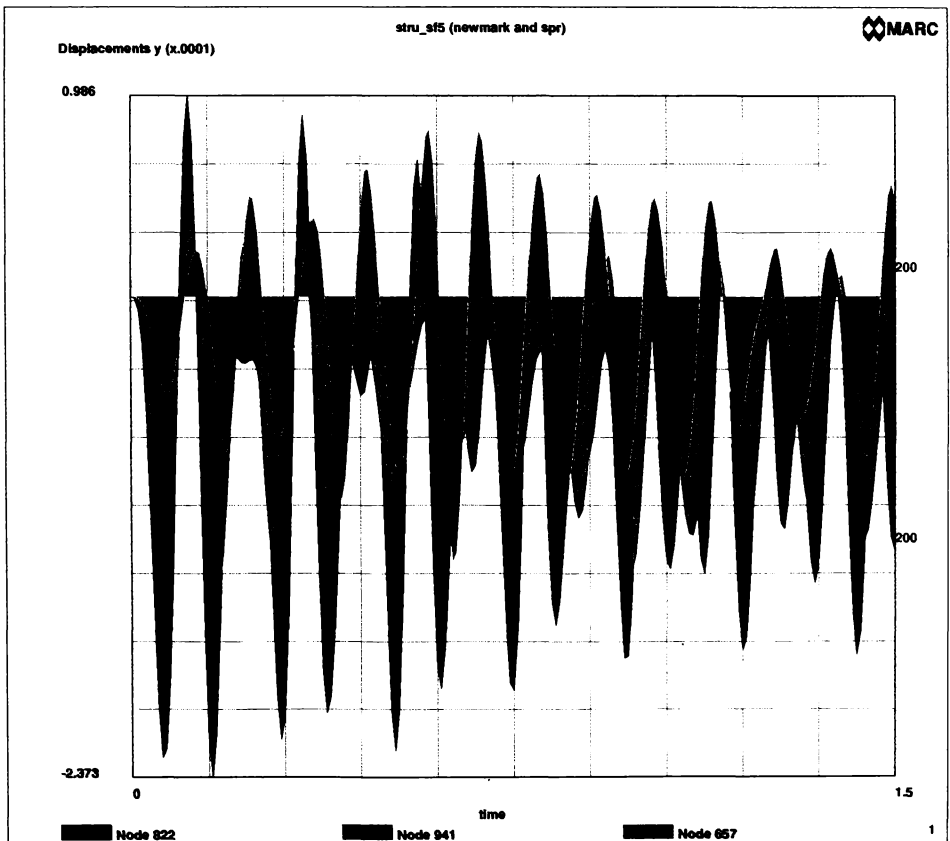


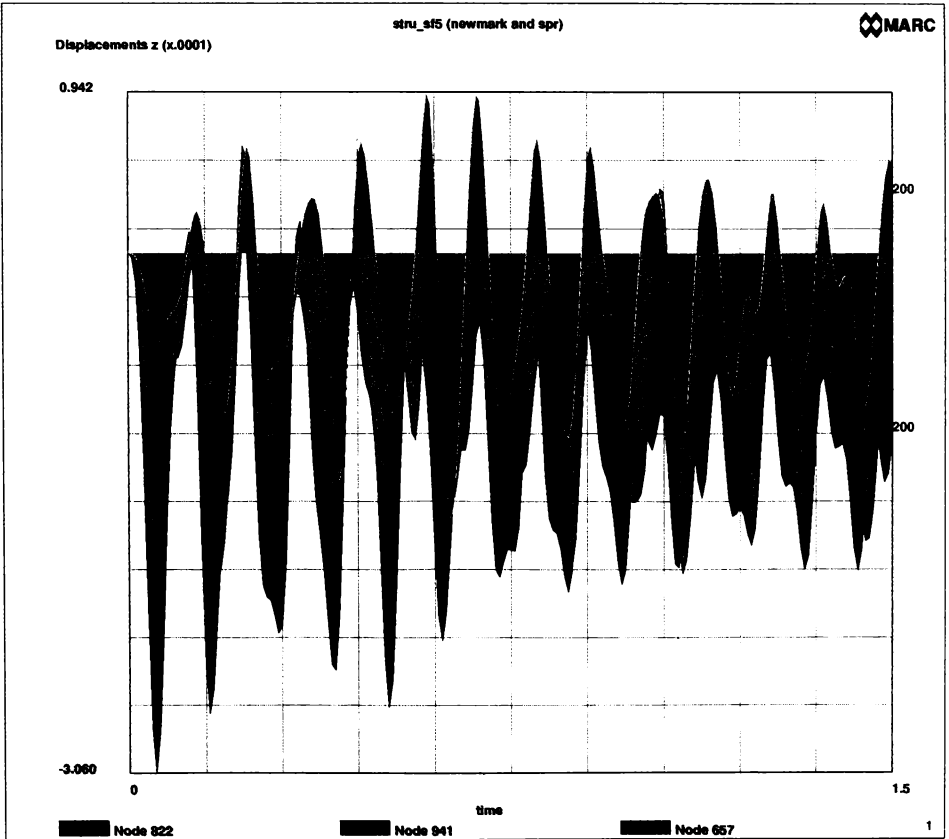


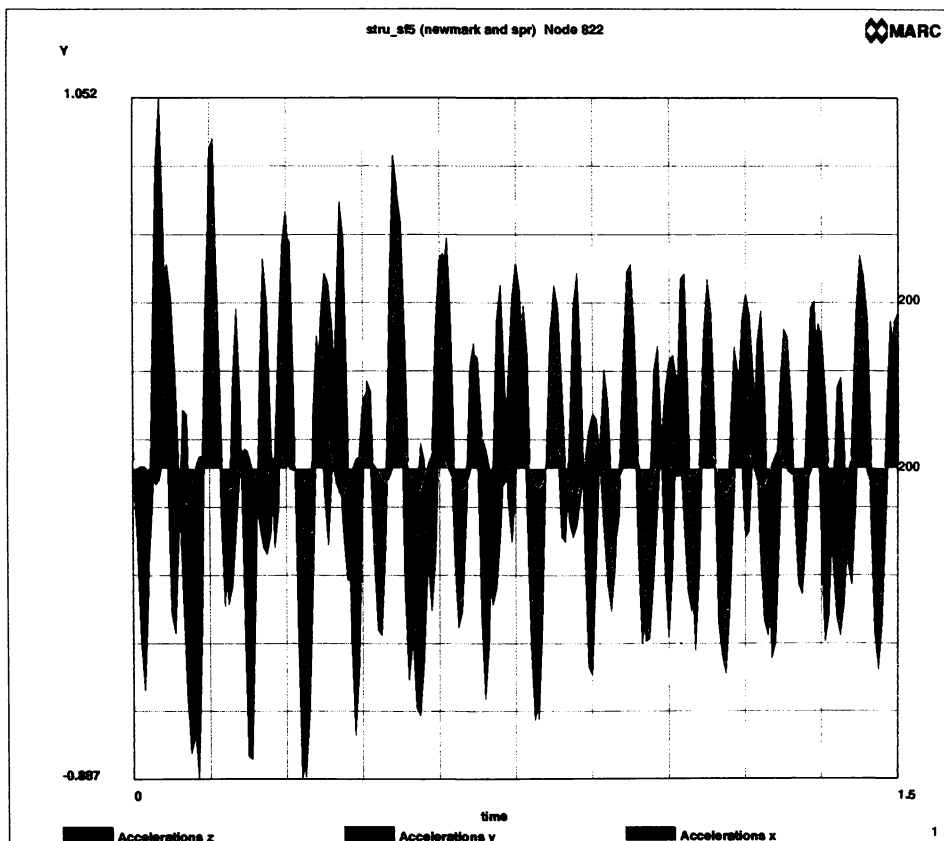


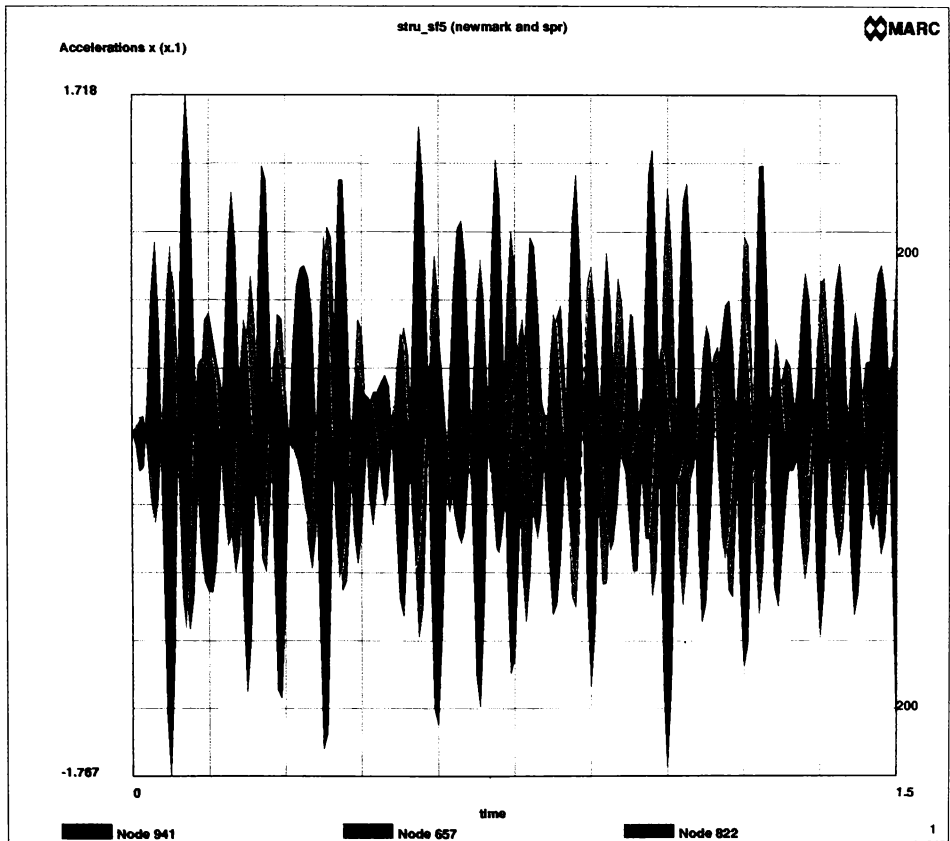


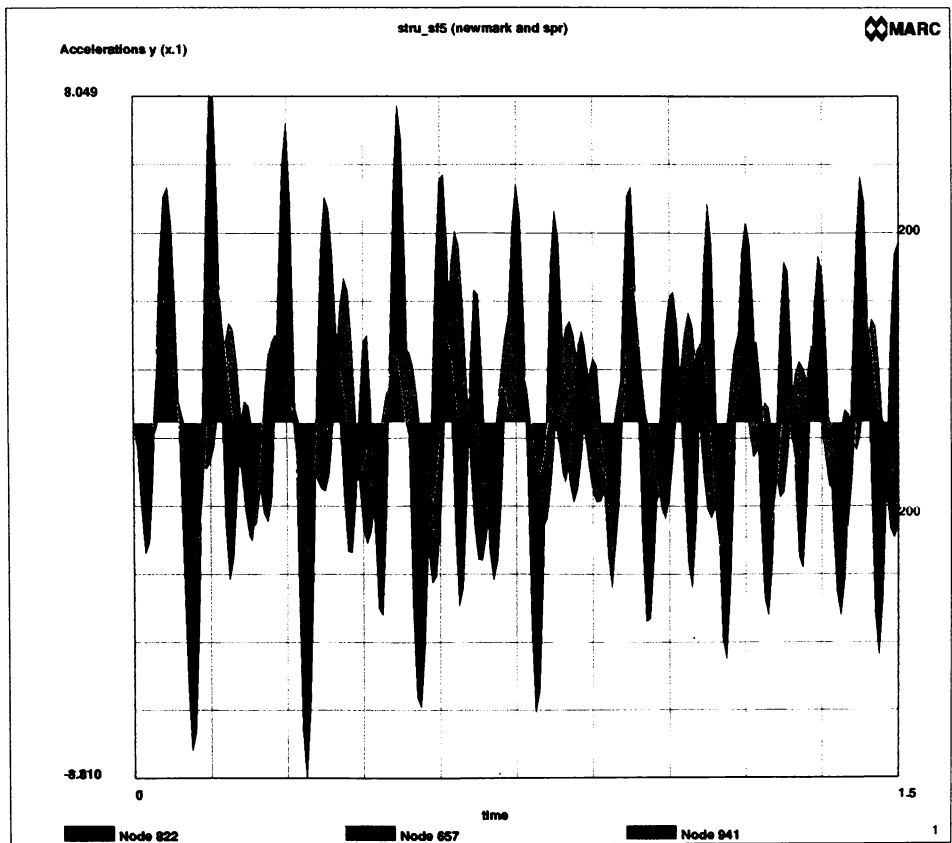


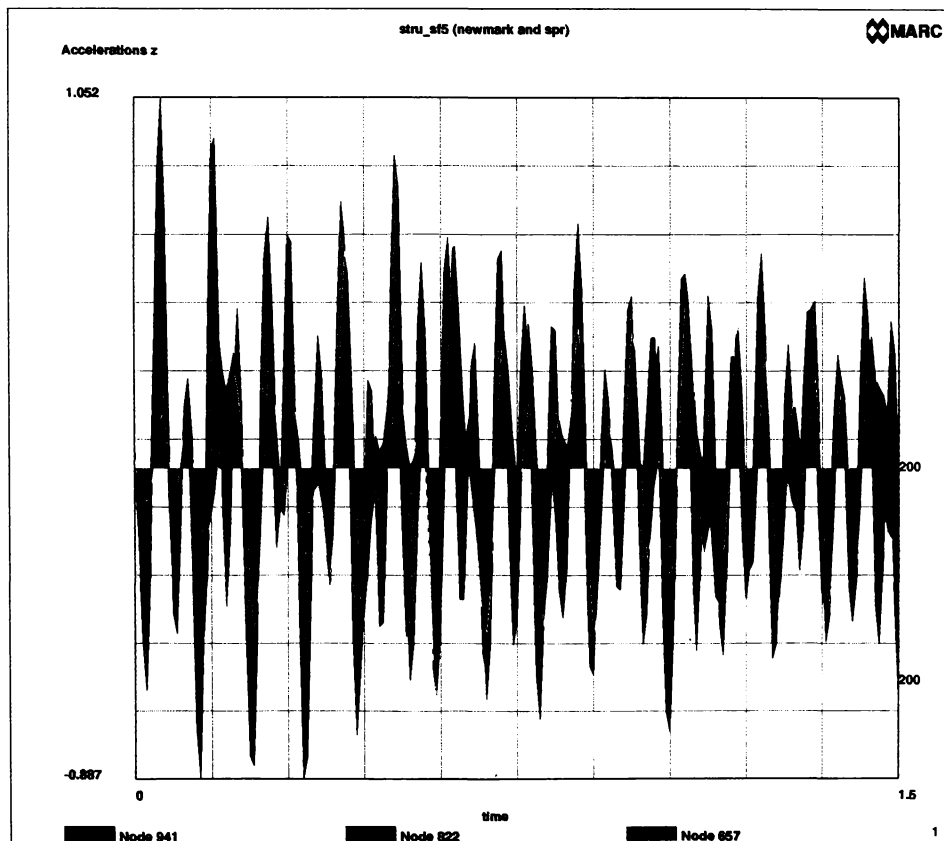




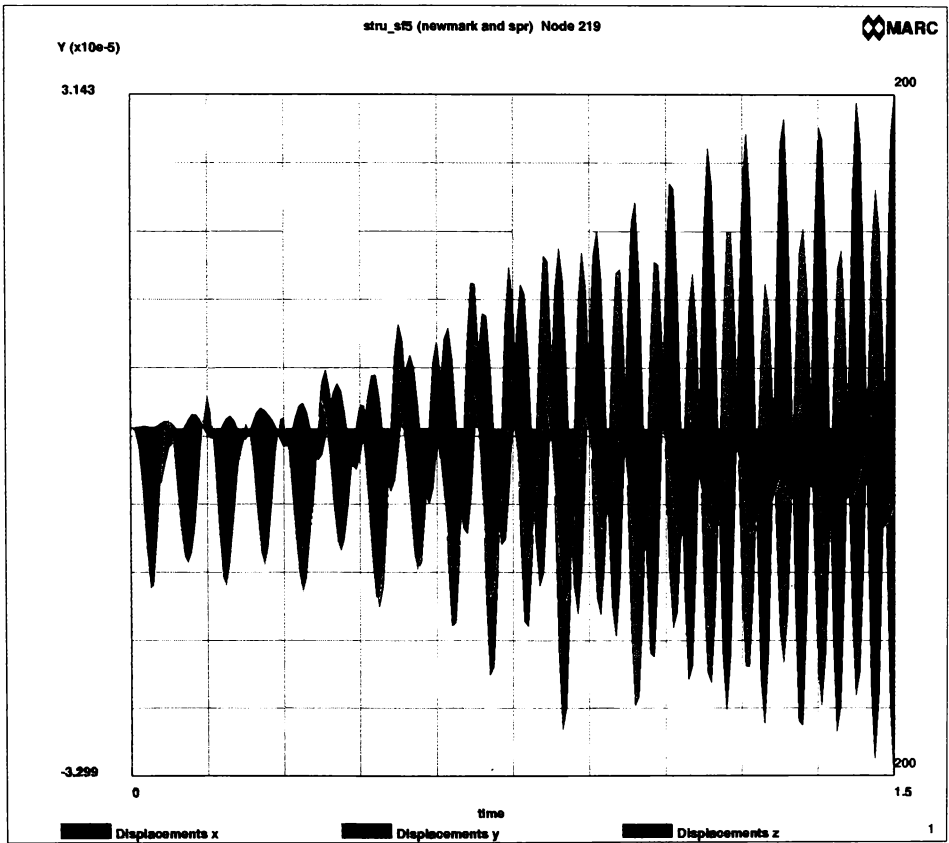


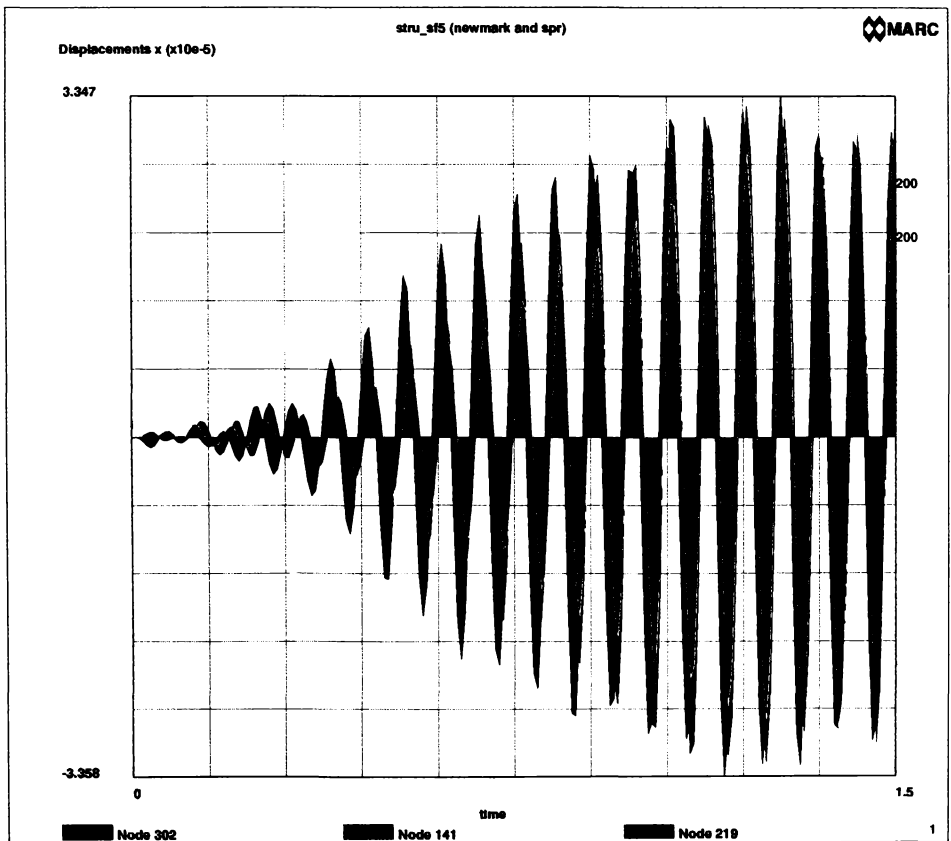


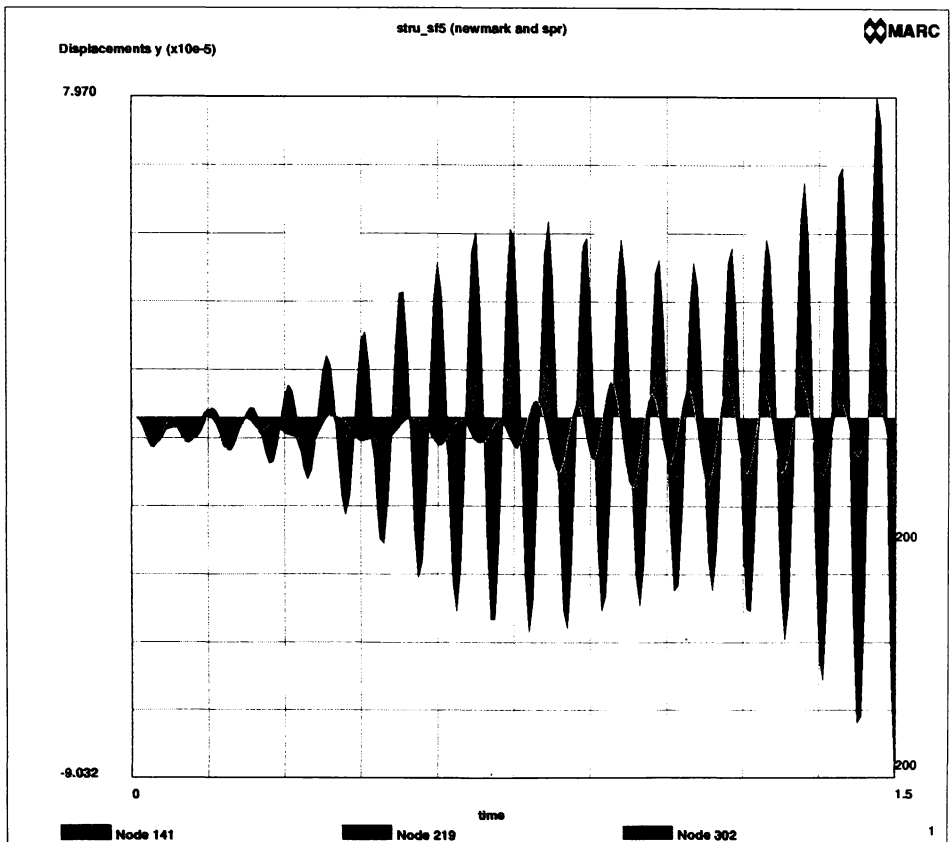


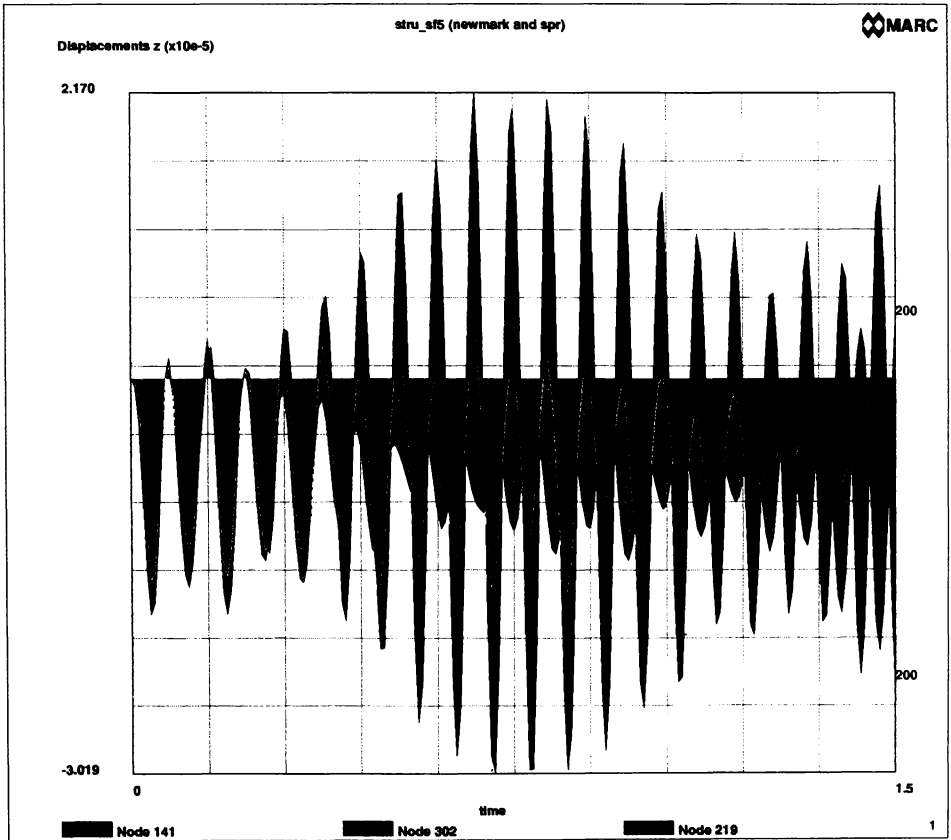


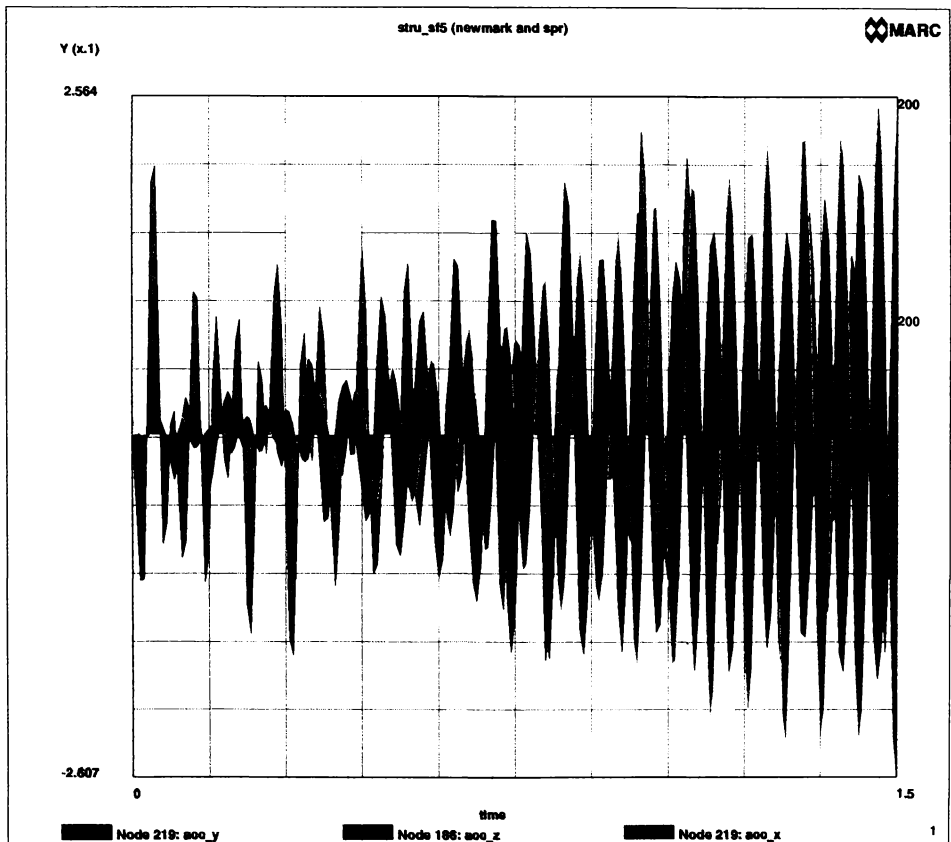


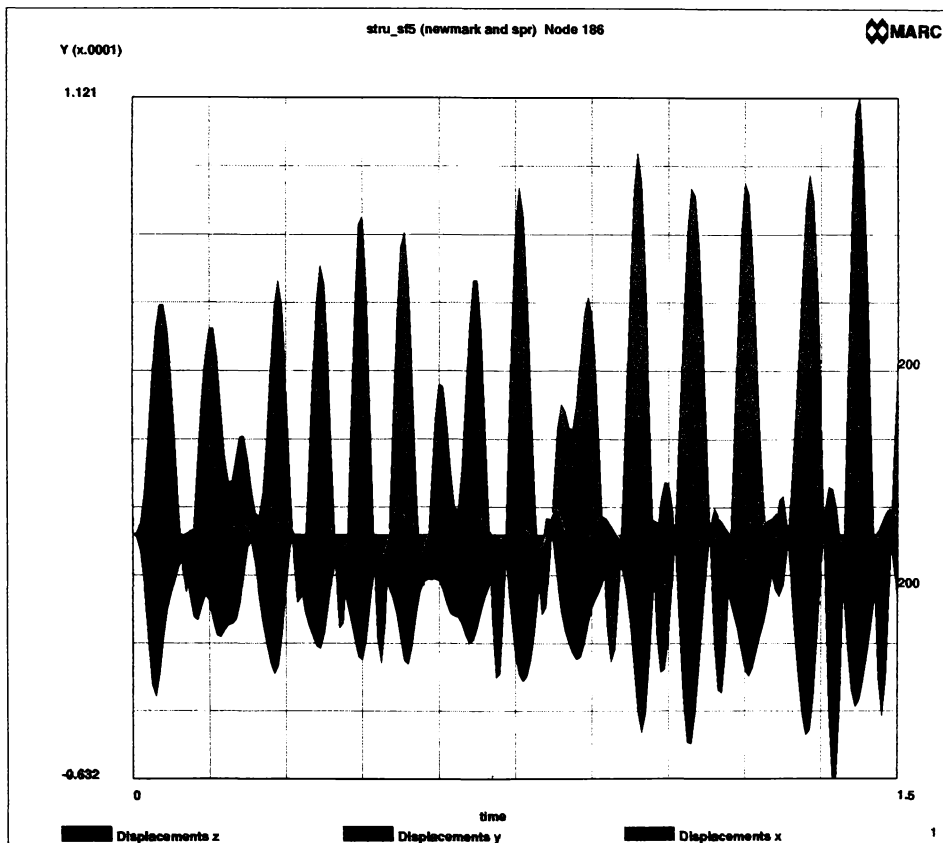


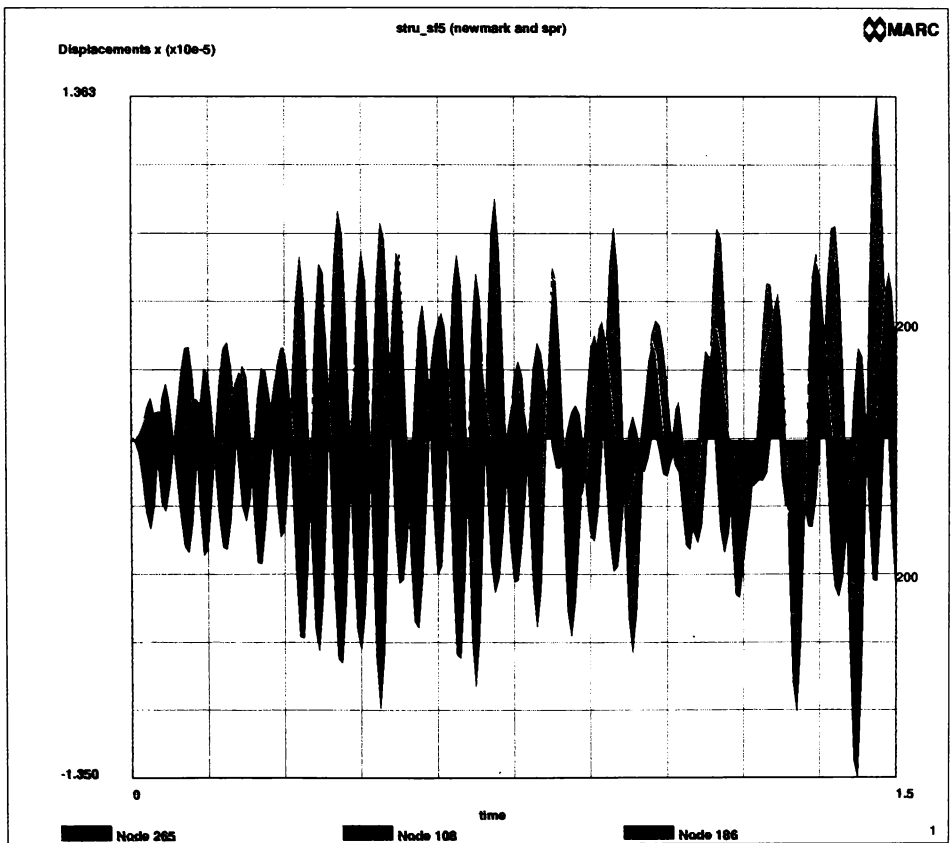


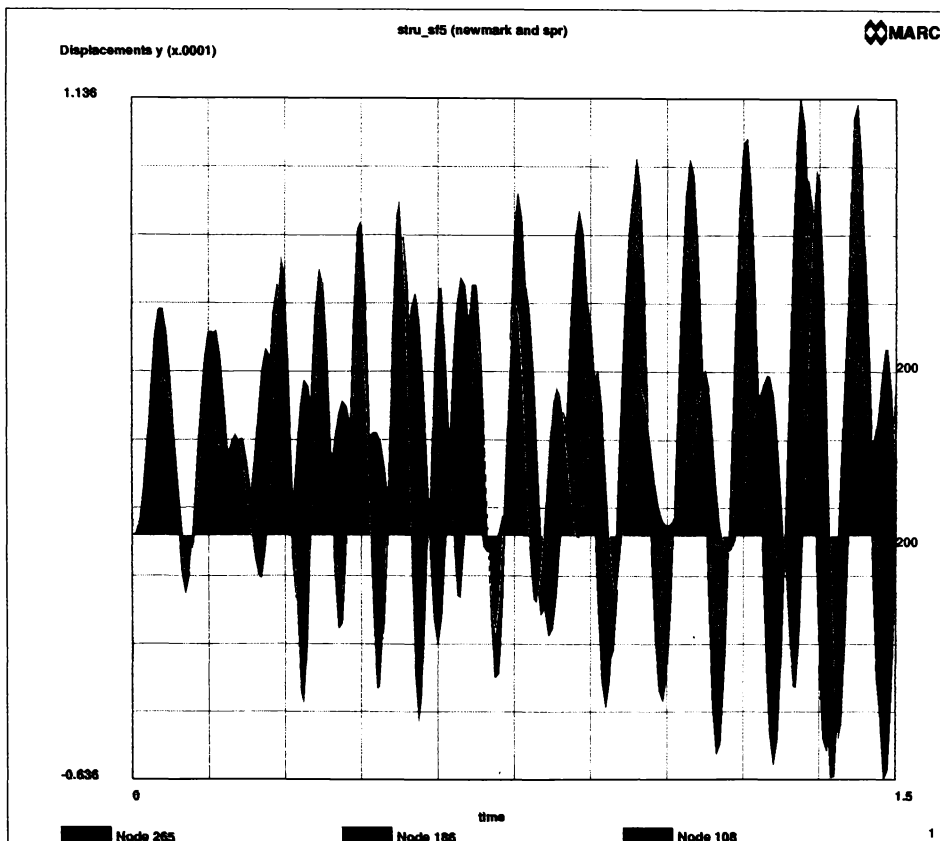




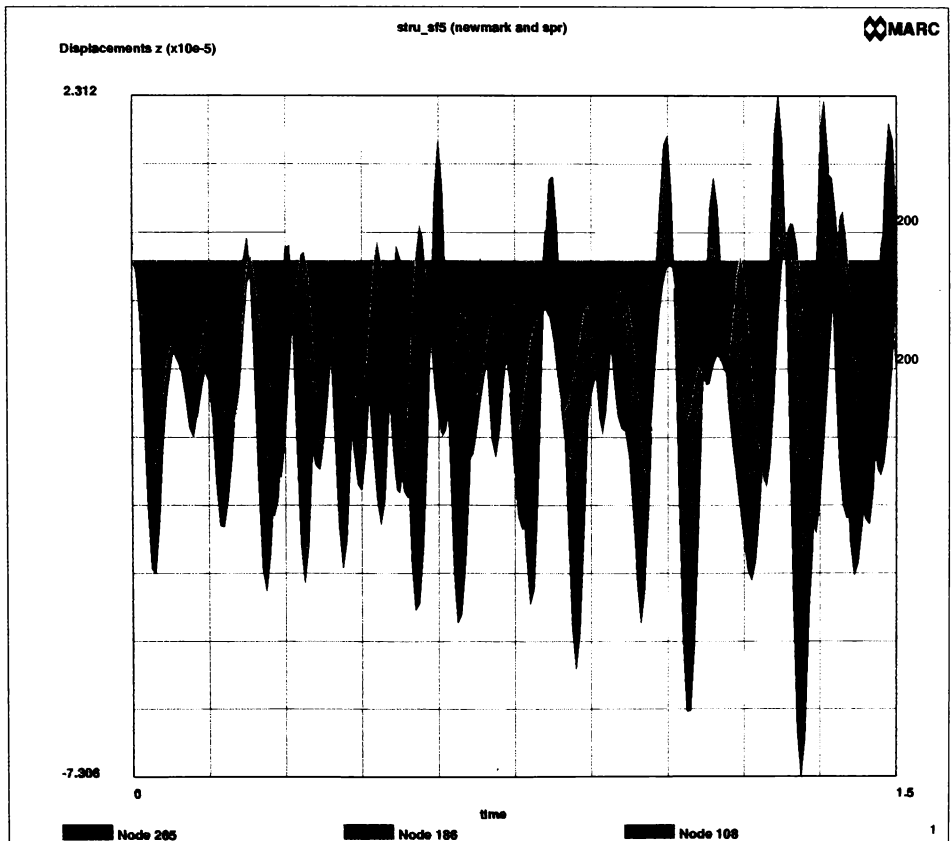


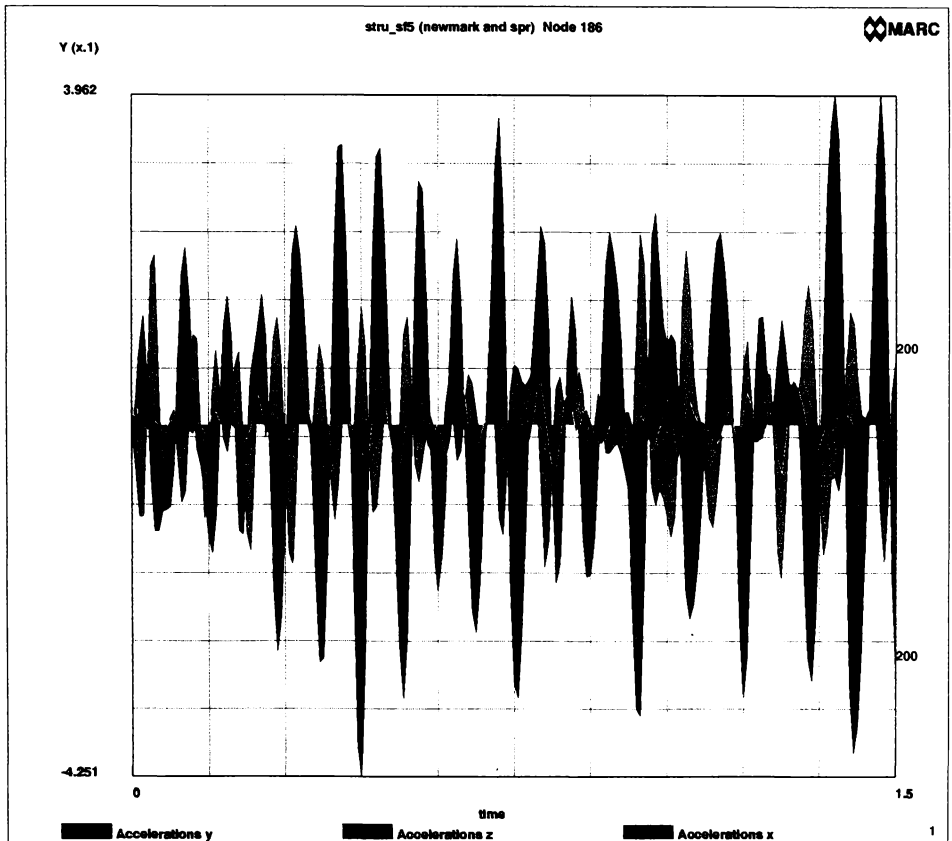


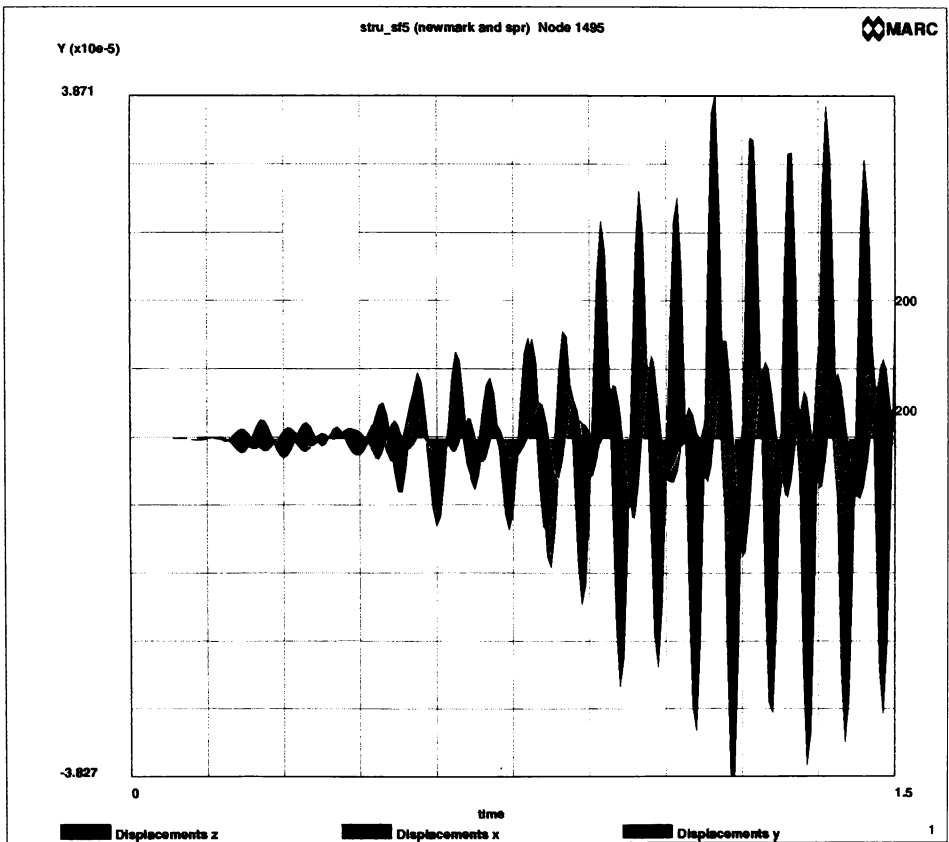


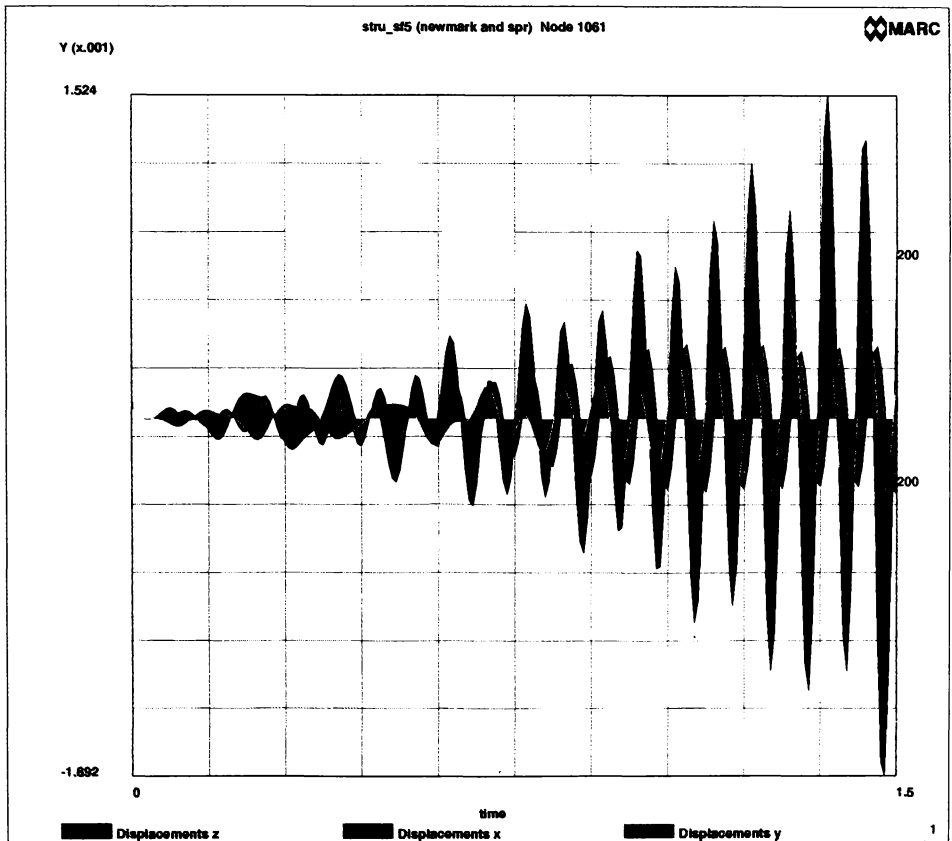


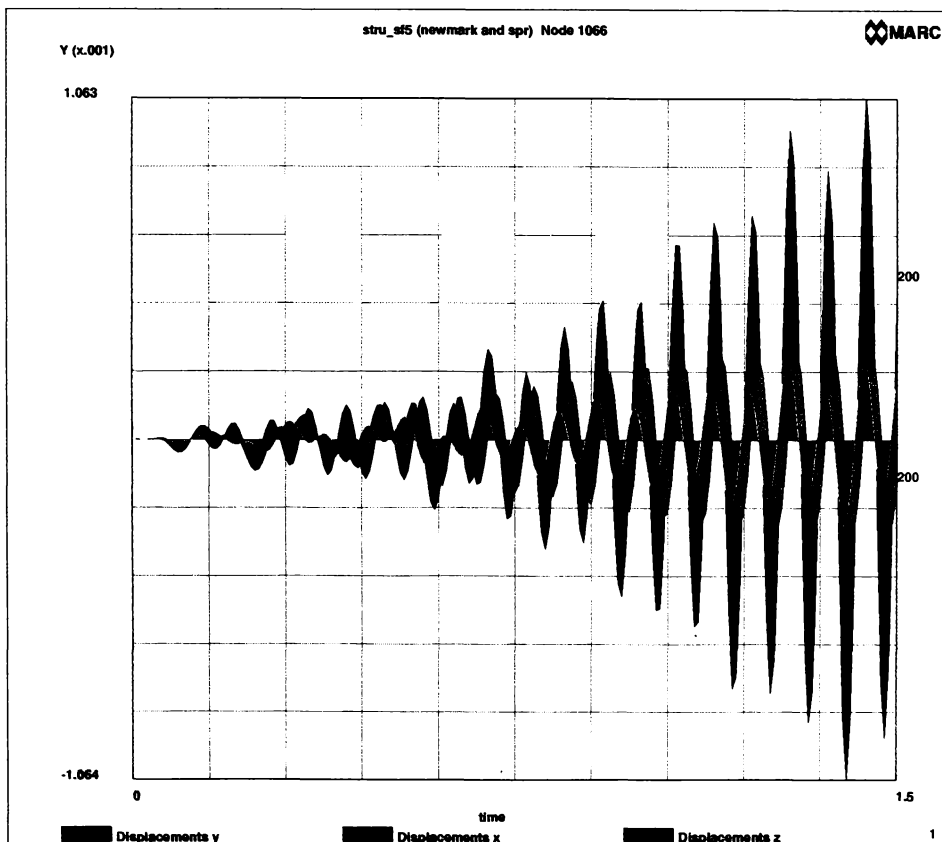


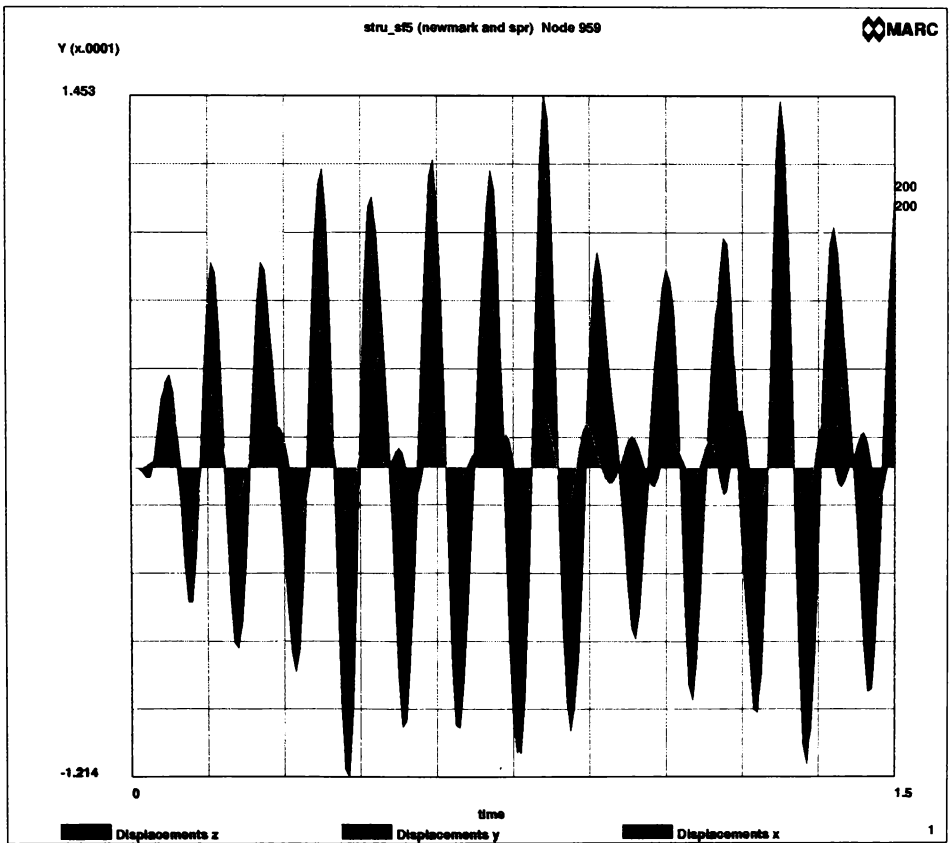


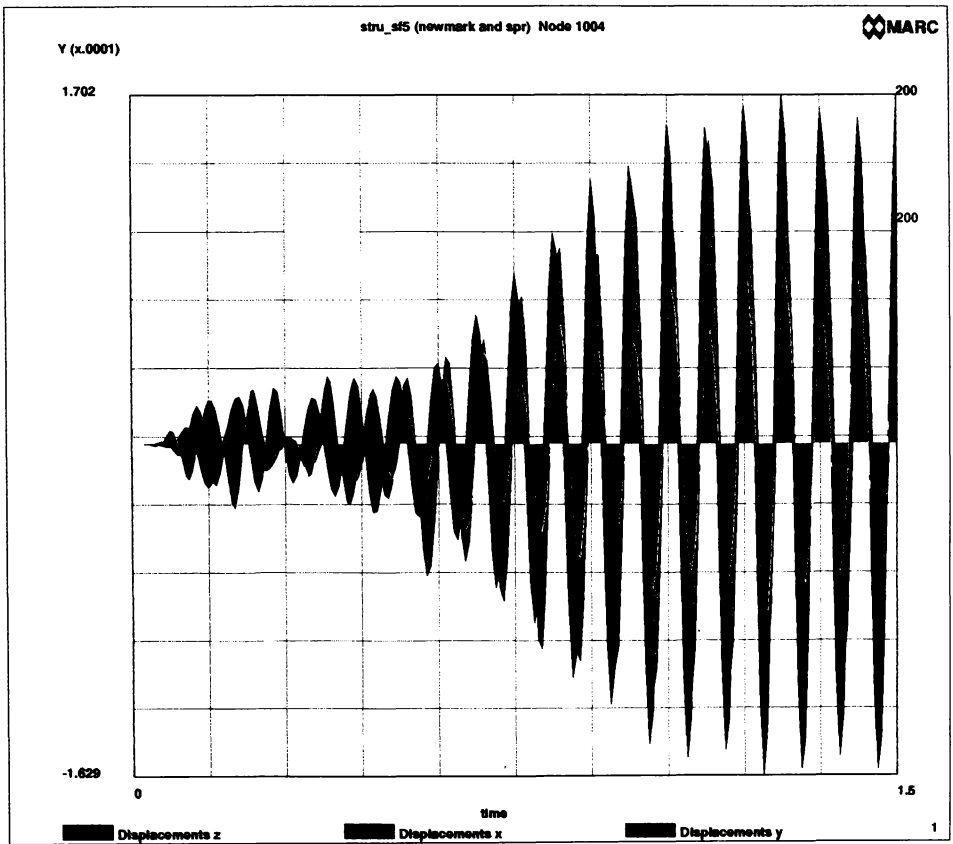


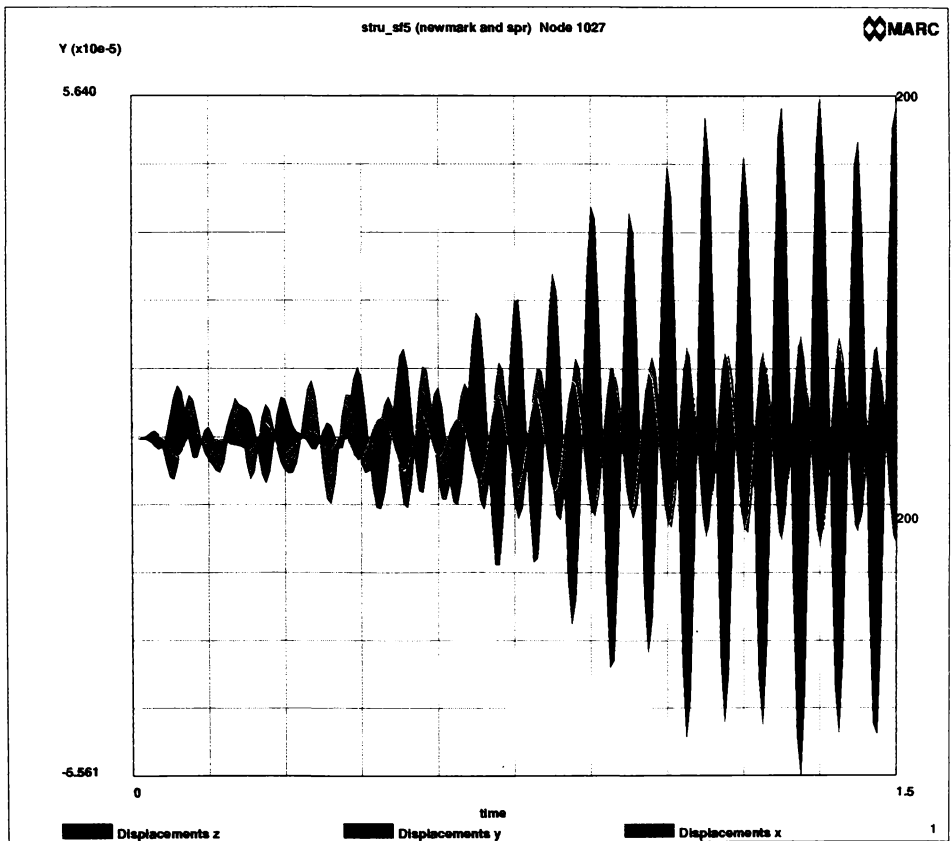




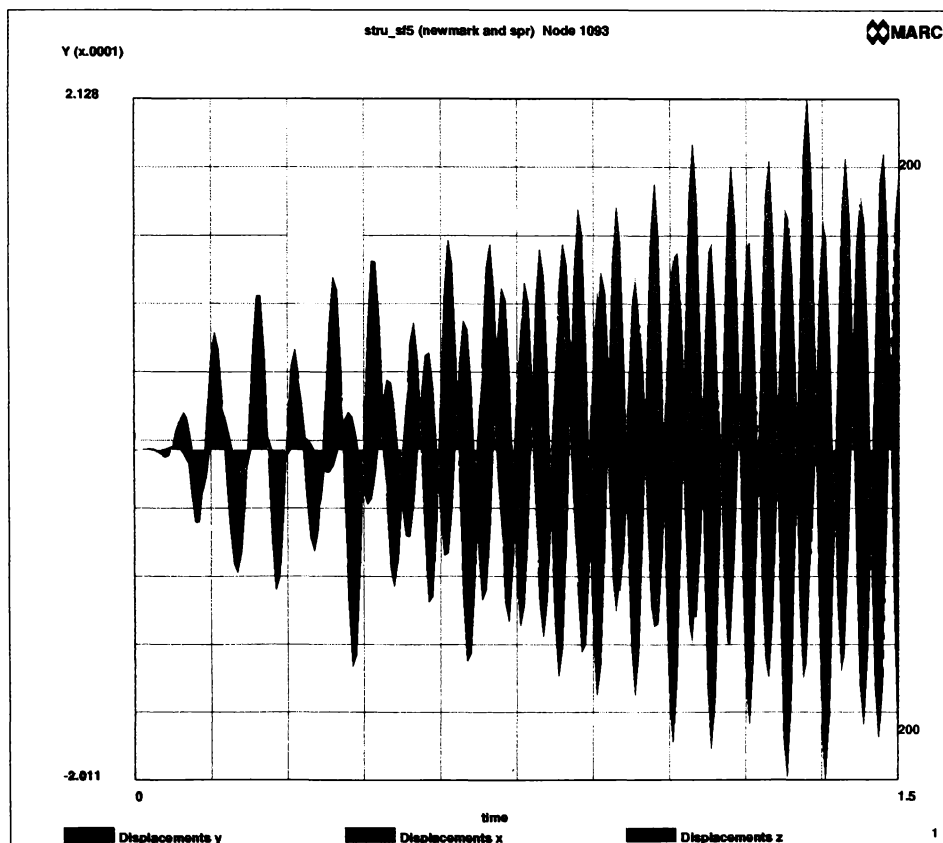


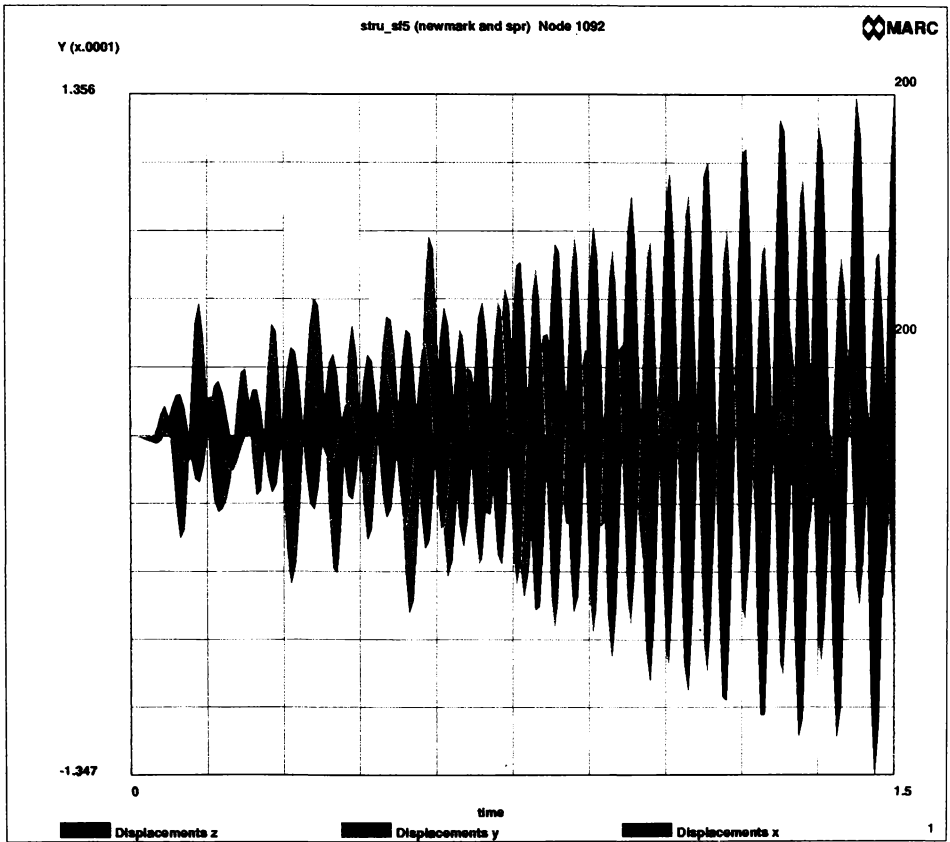


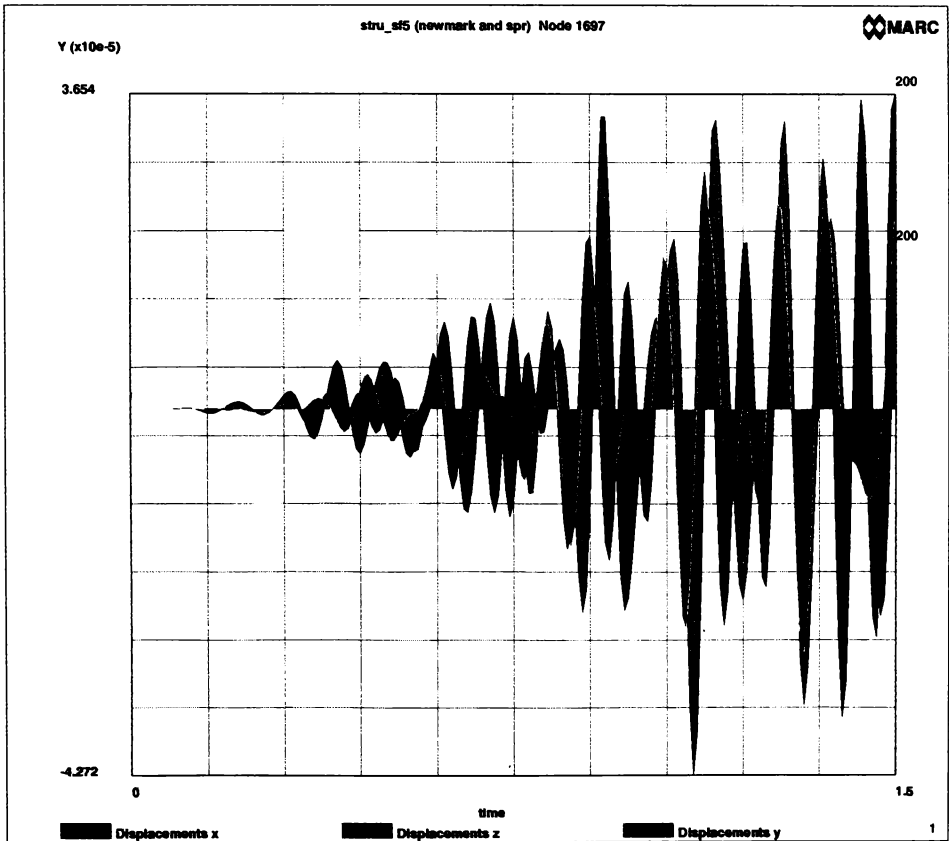


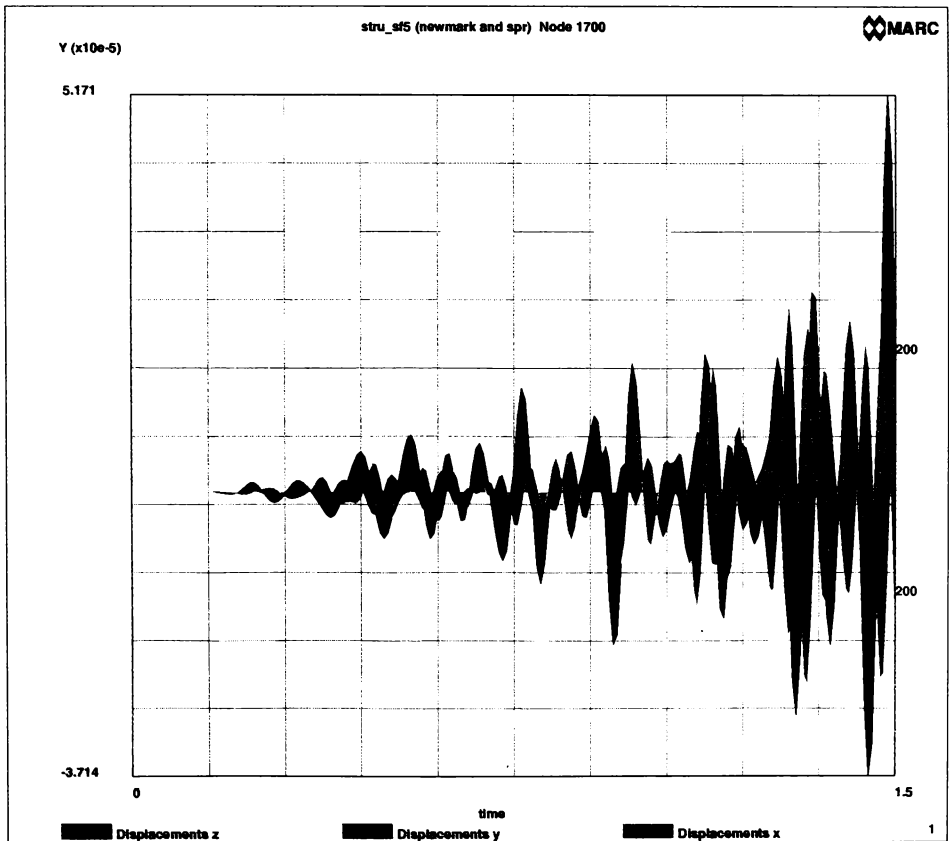












**CALCULUL VIBRATIILOR FORTATE pentru:**

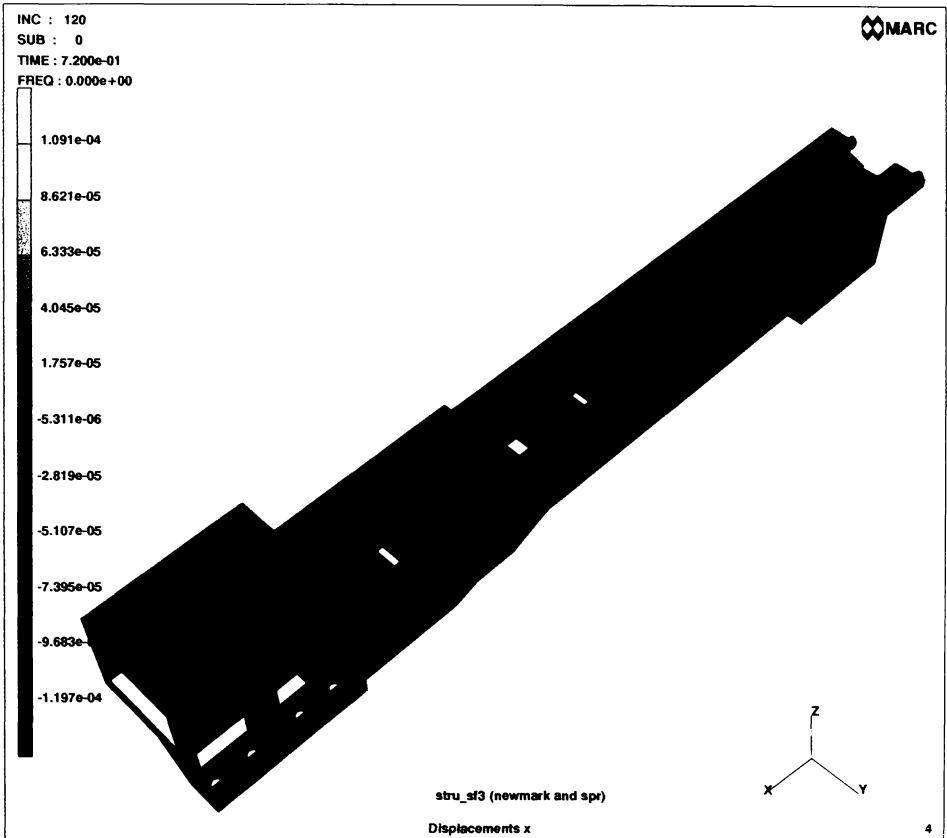
**$n=1000$  rpm**

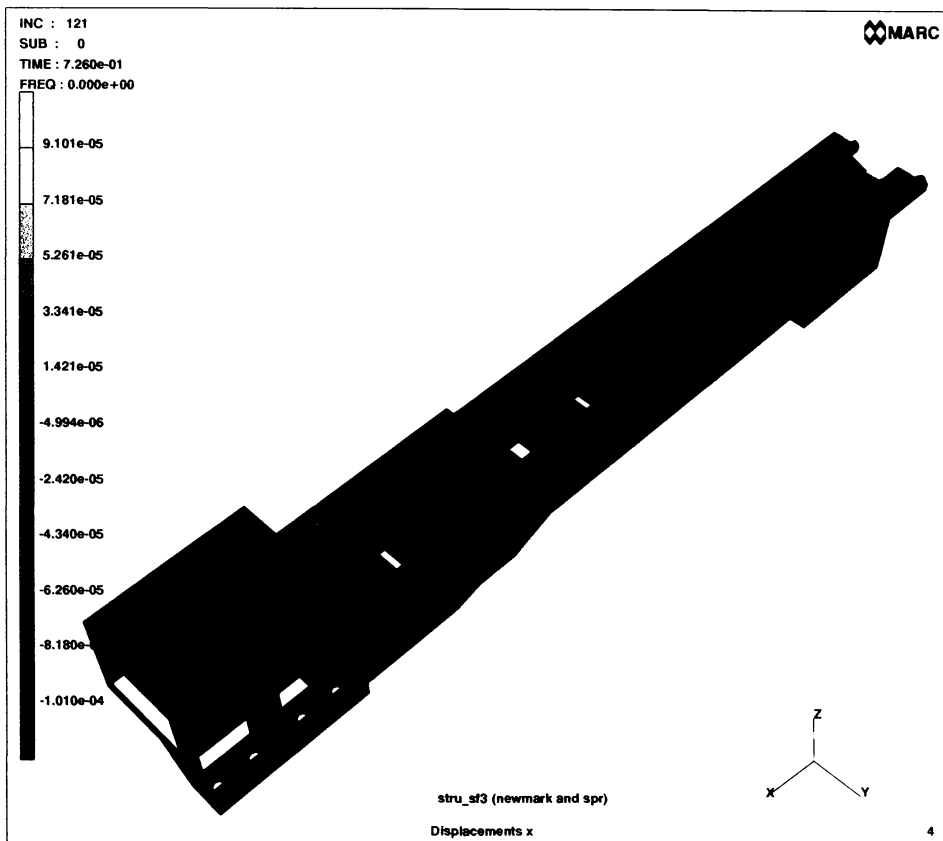
**$t=1.5$  s ;  $\Delta t=0.006$  ms**

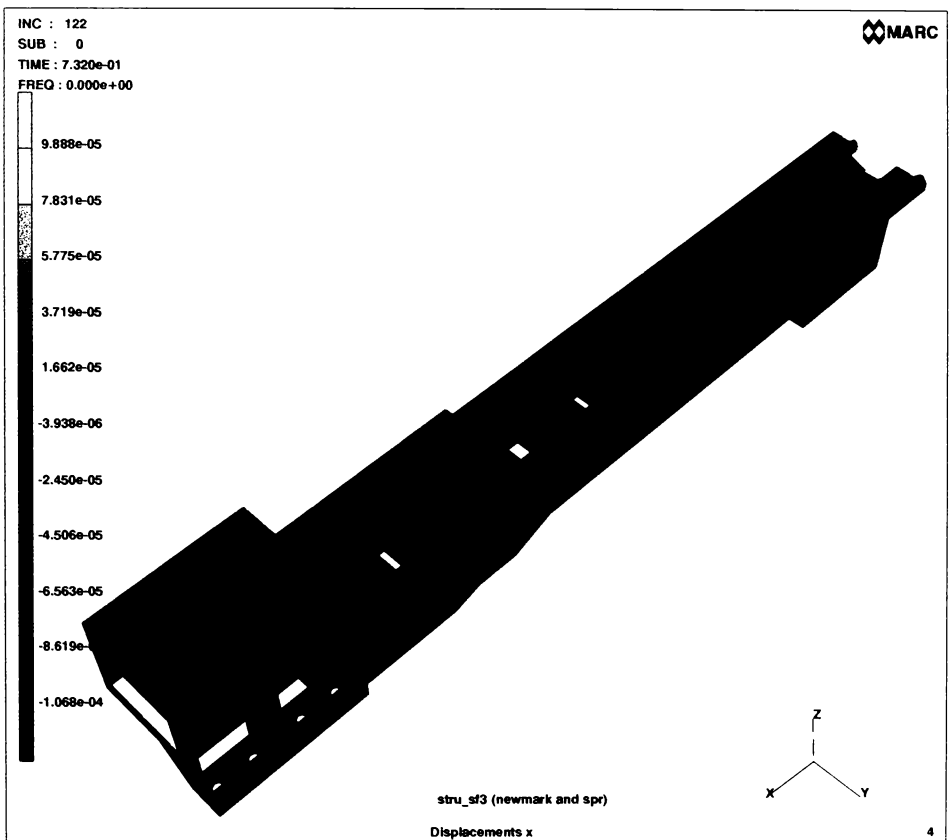
**$p_{nod} = \bar{p}_{o,nod} + p_o \cos \omega t$**

**$p_o = 0.2 \bar{p}_{o,nod}$**

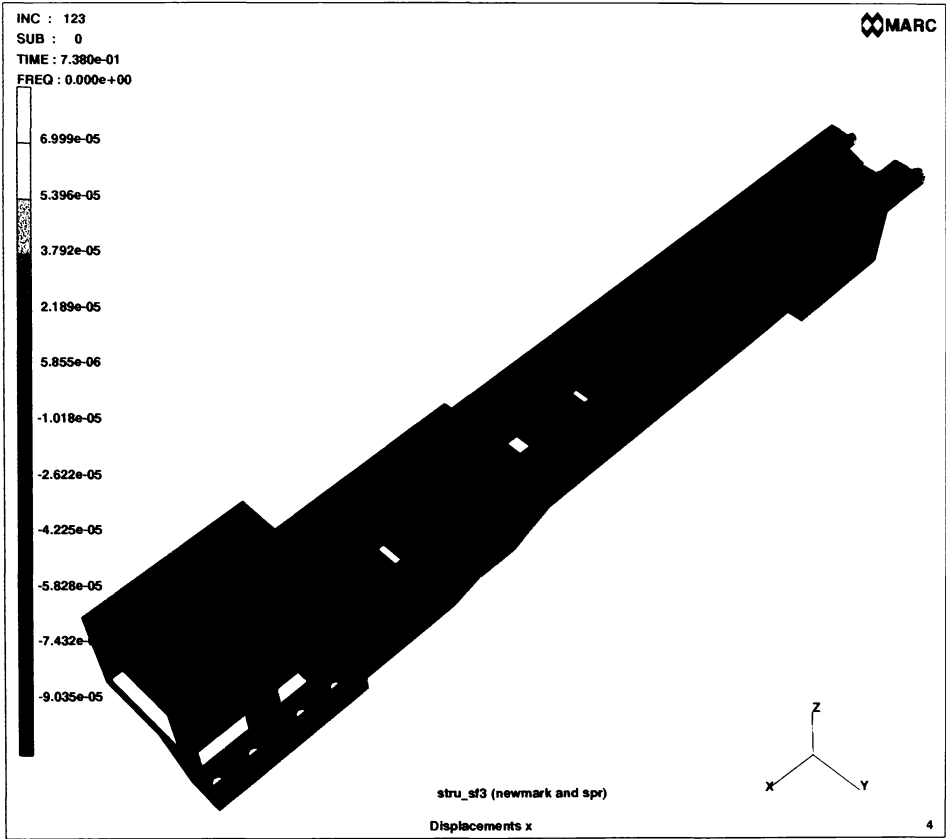
**amortizare structurala si prin  
suruburi fundatie**

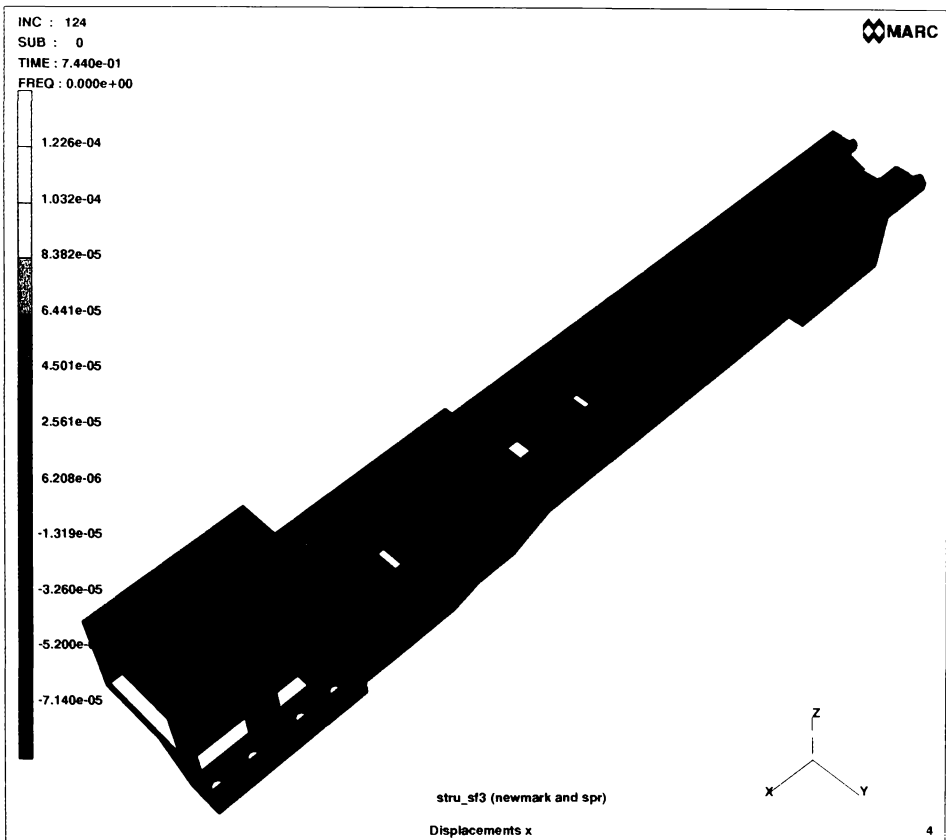


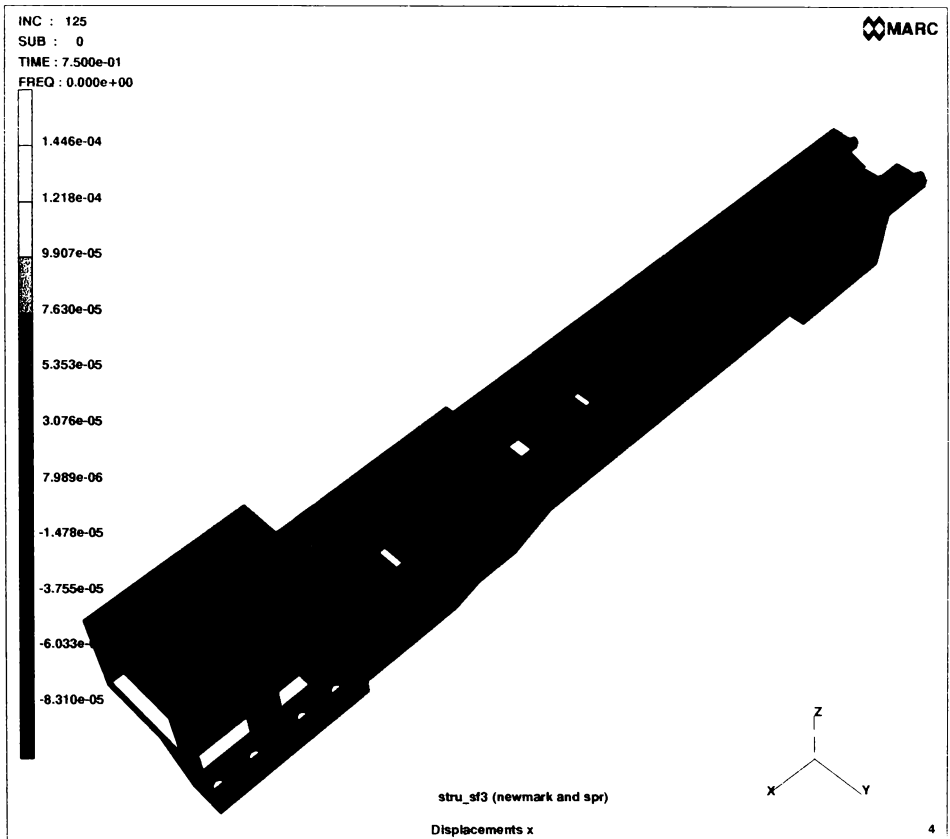


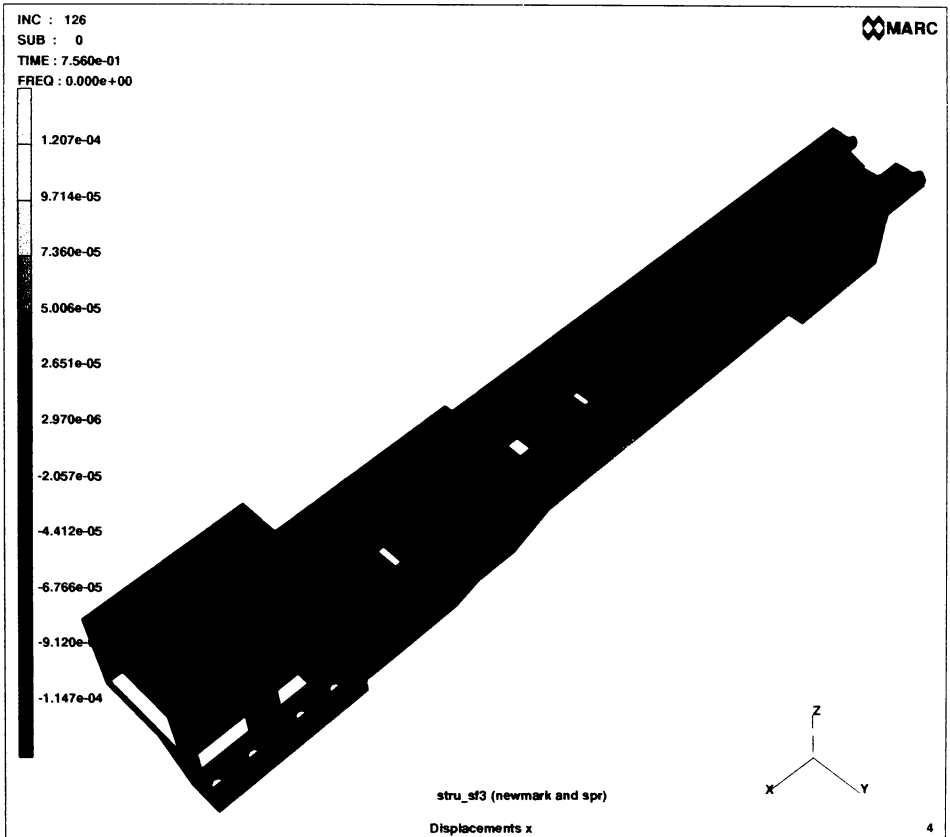


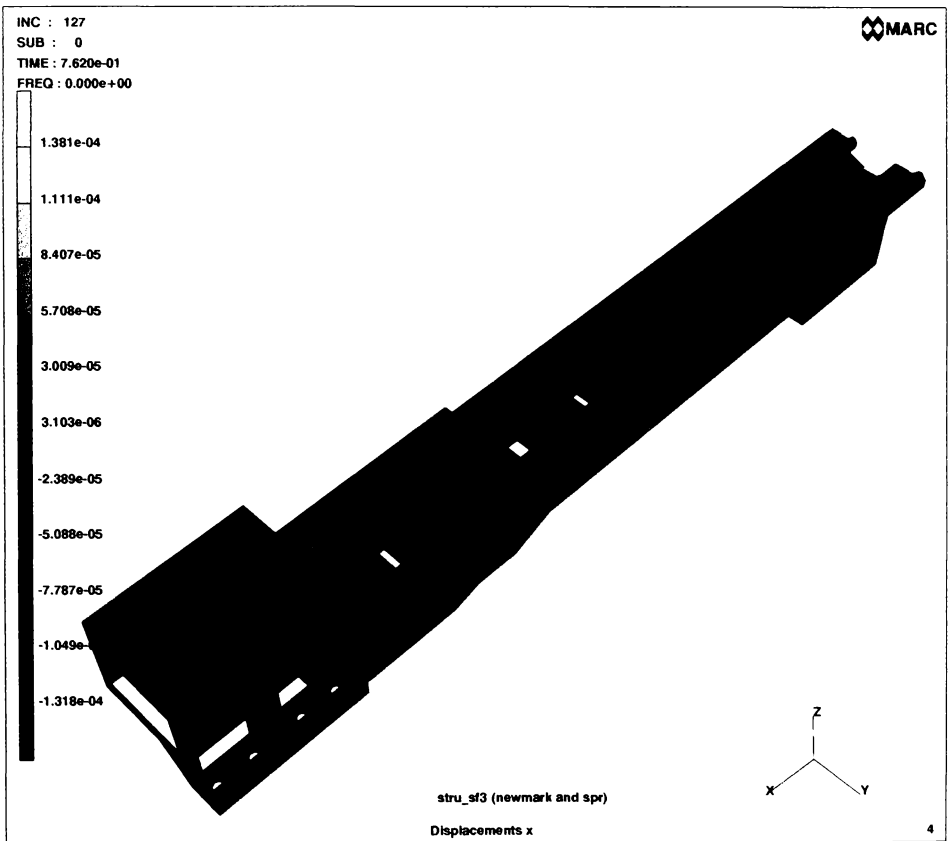


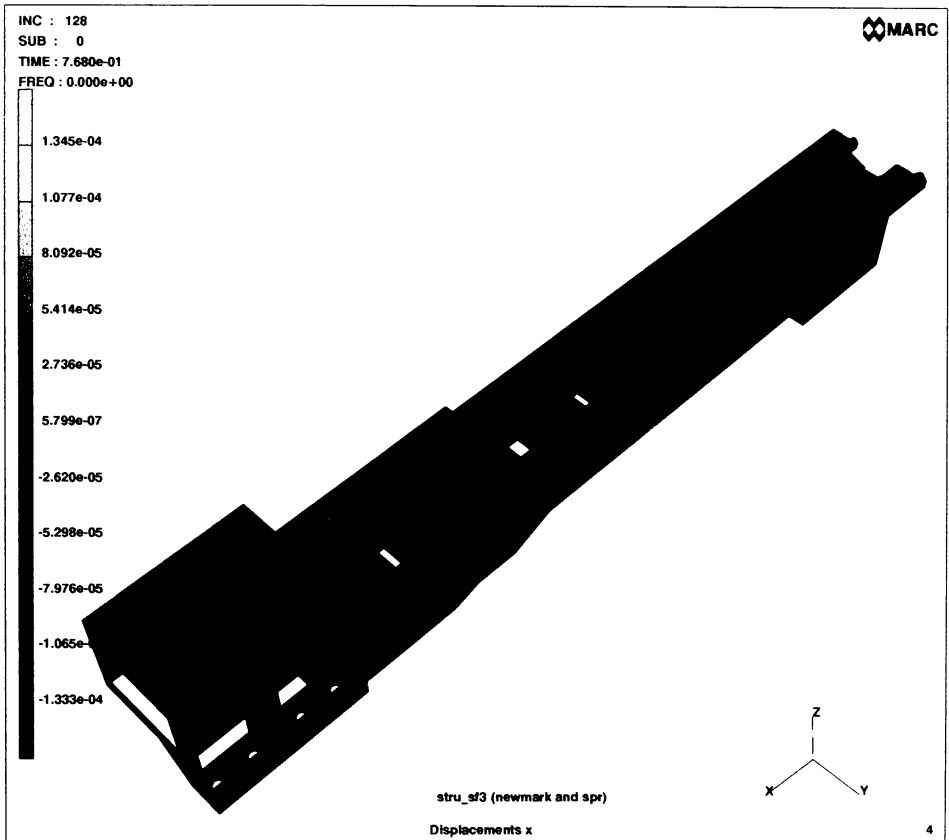


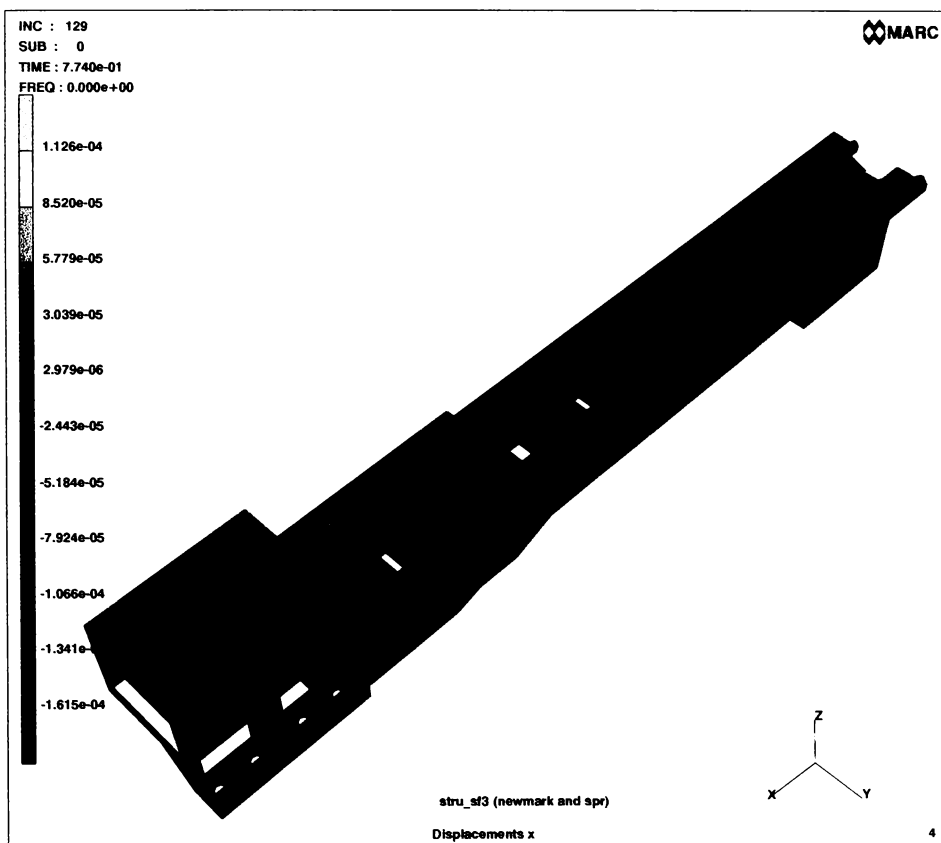


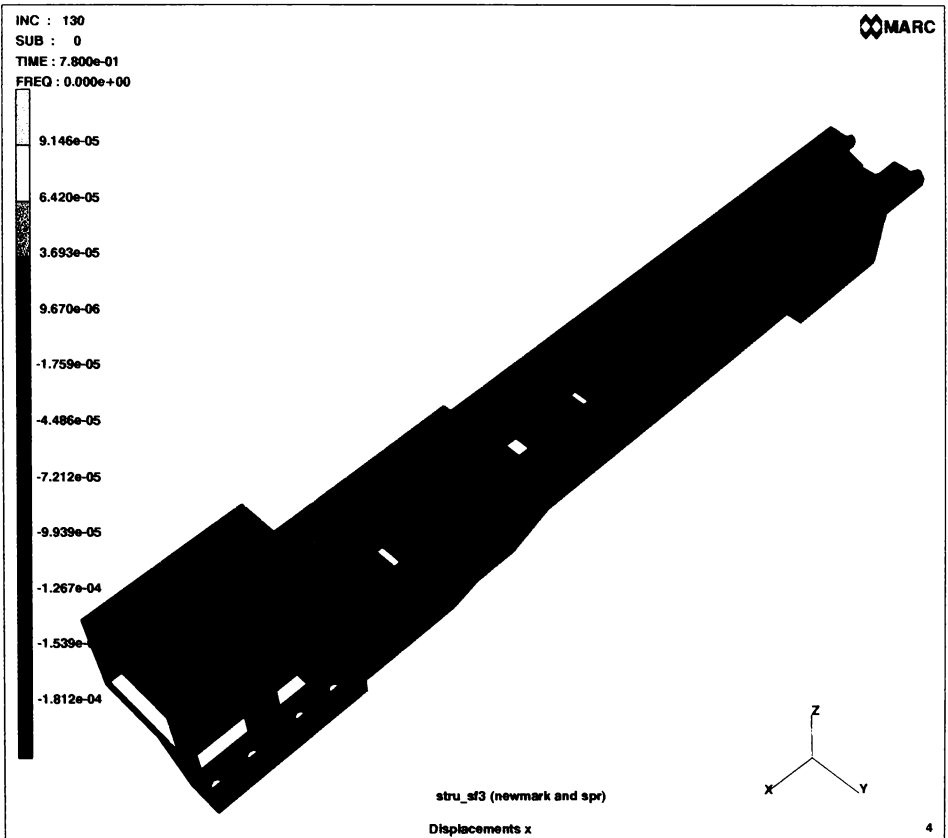




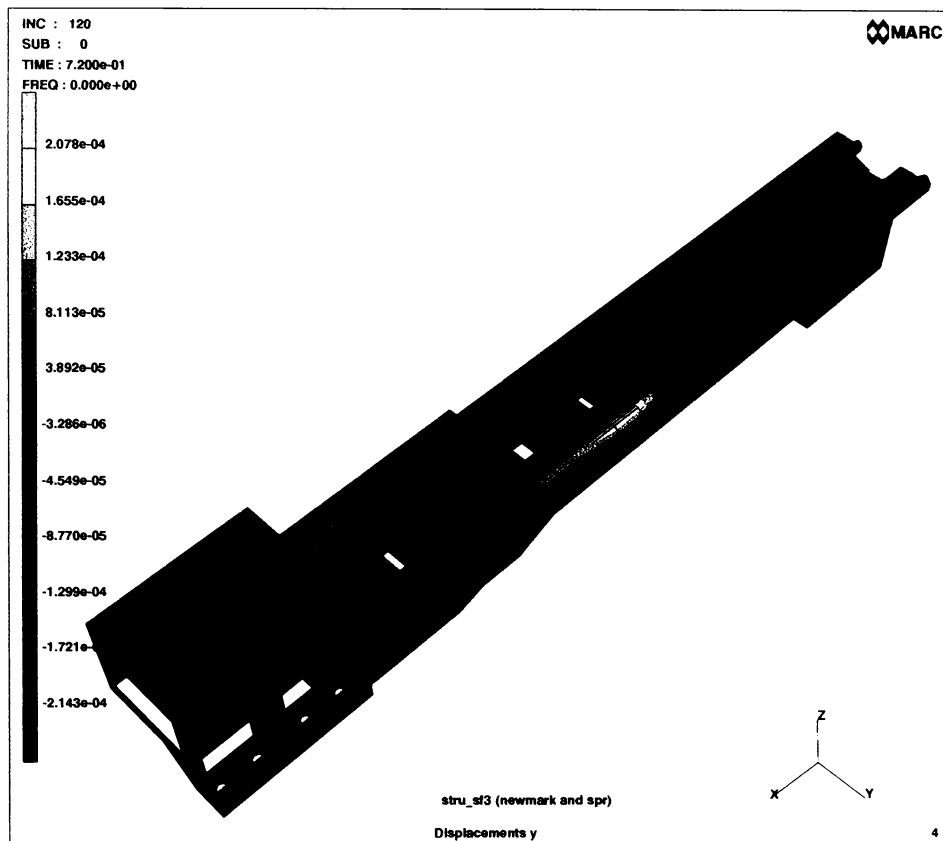


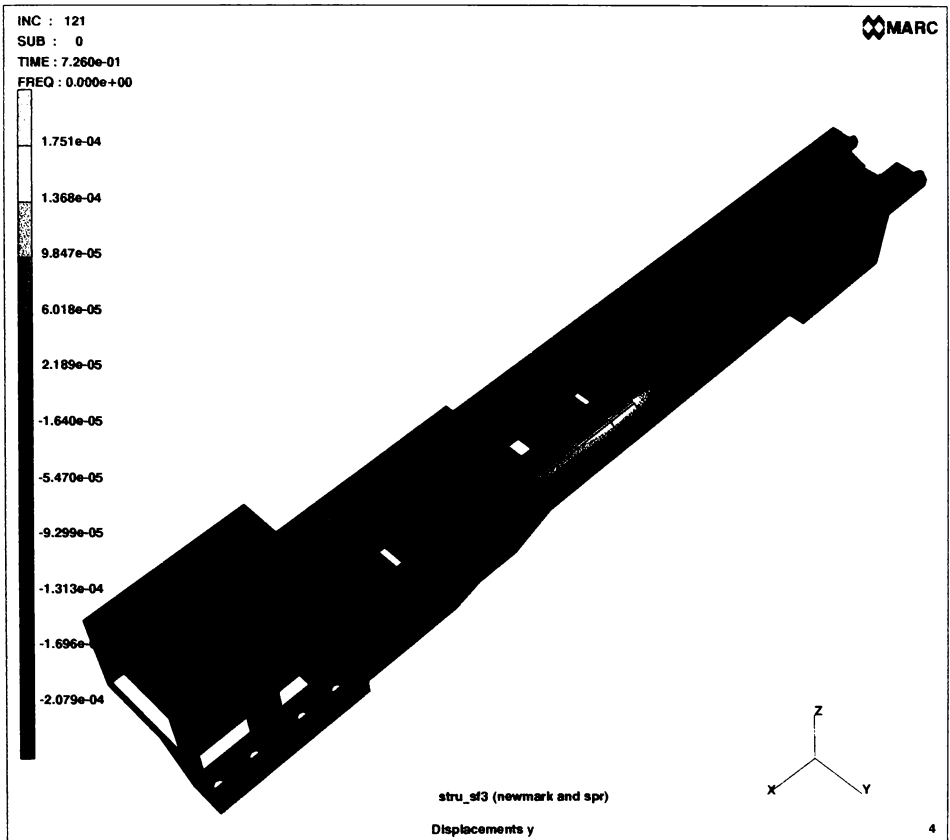


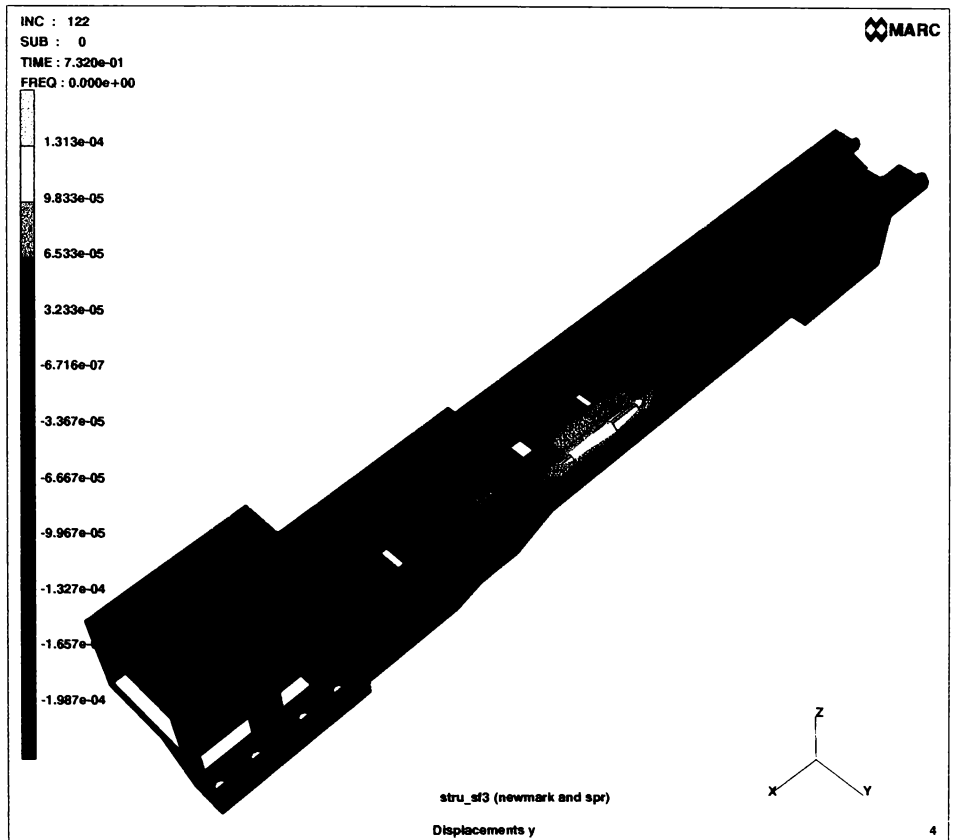


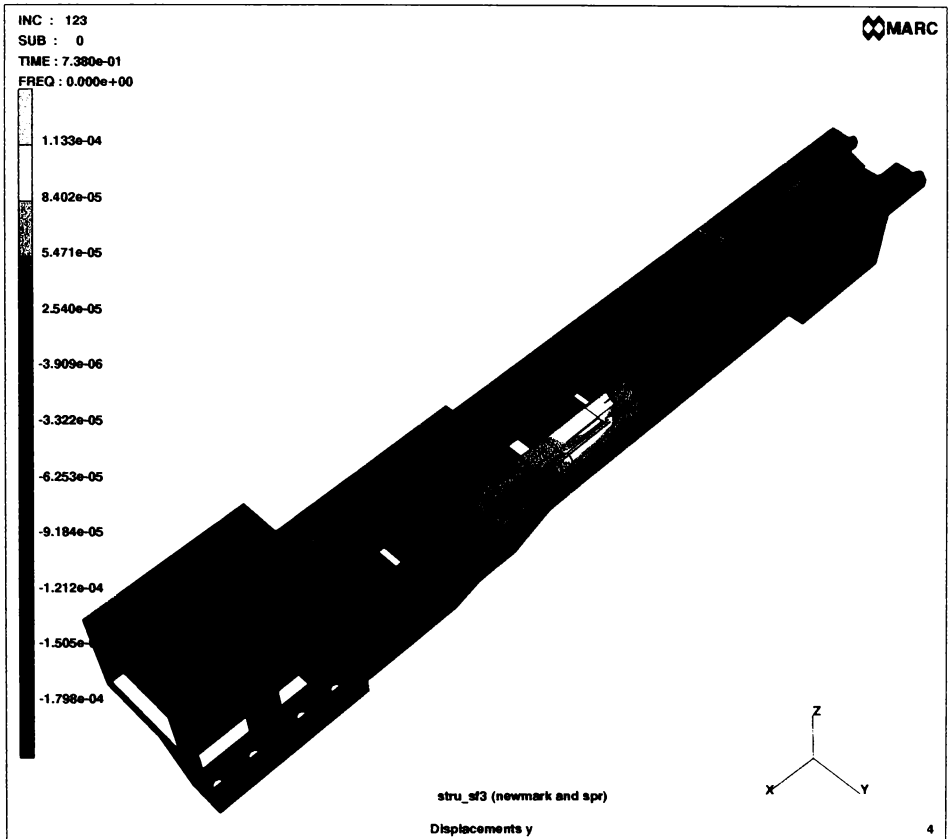


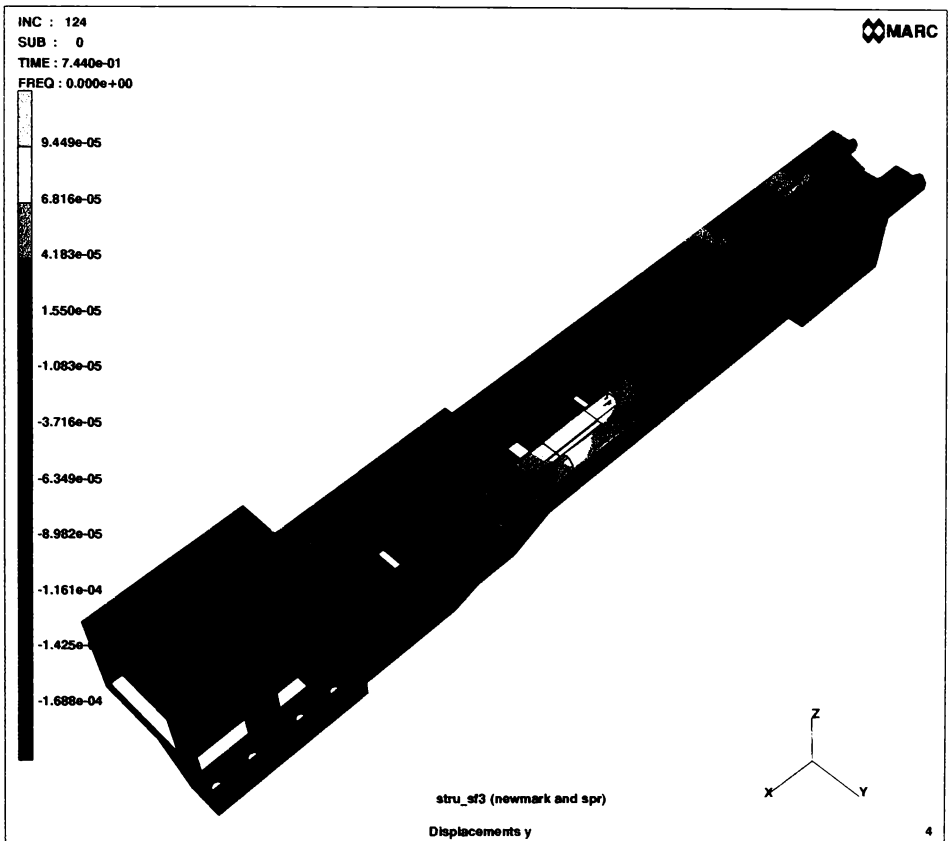


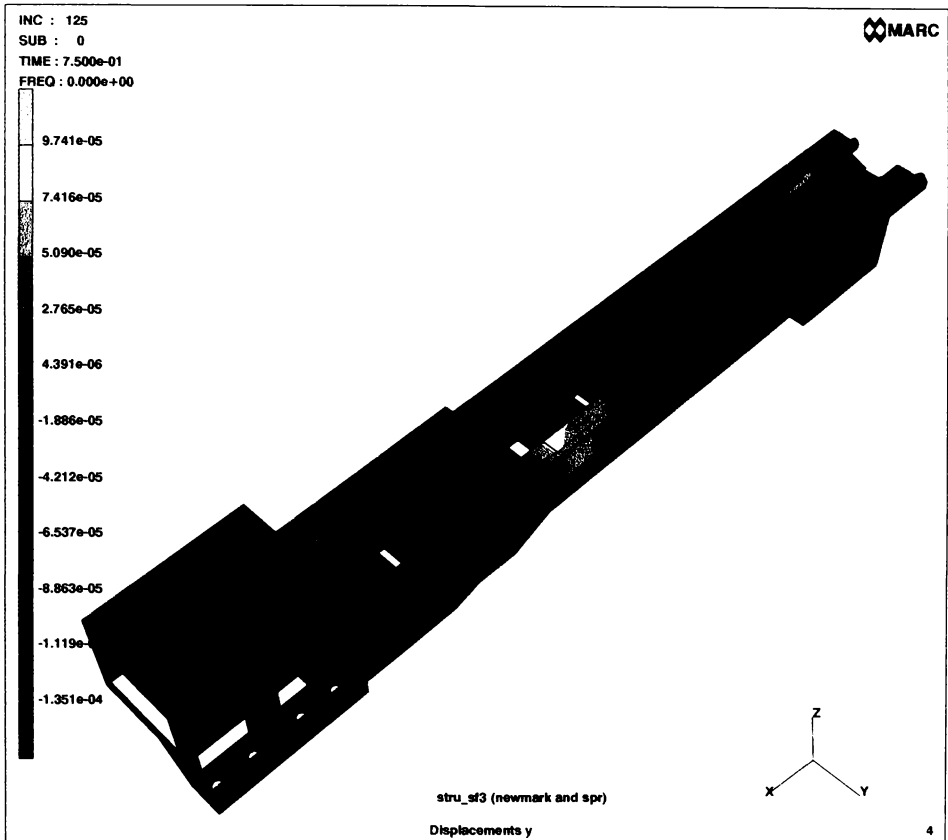


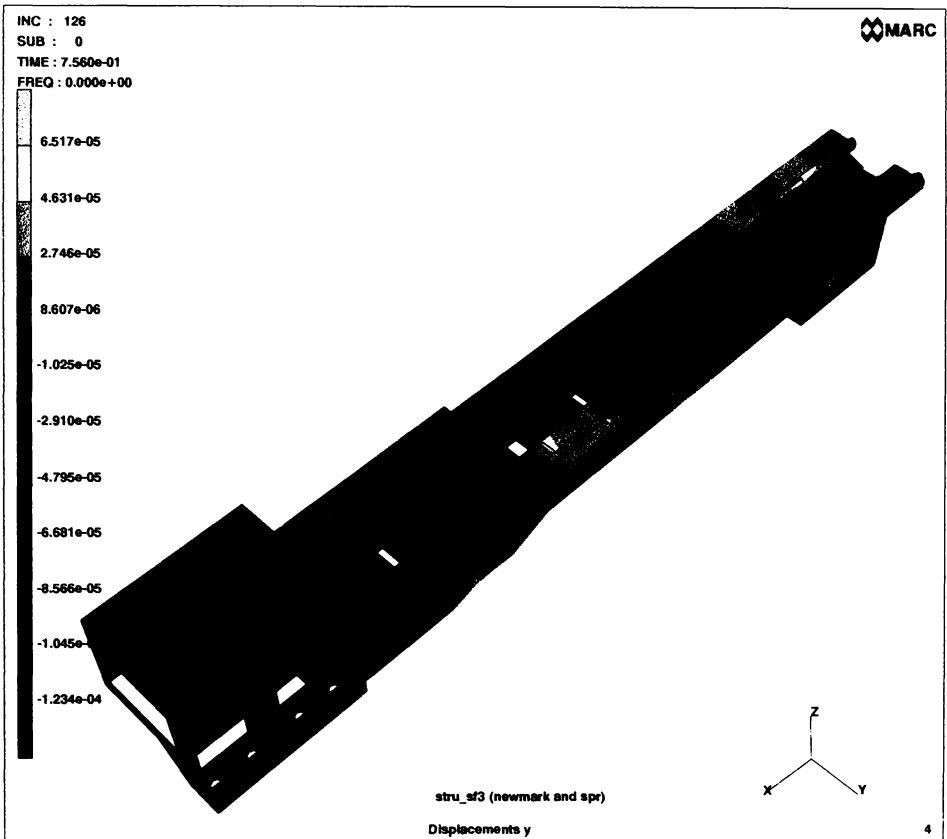


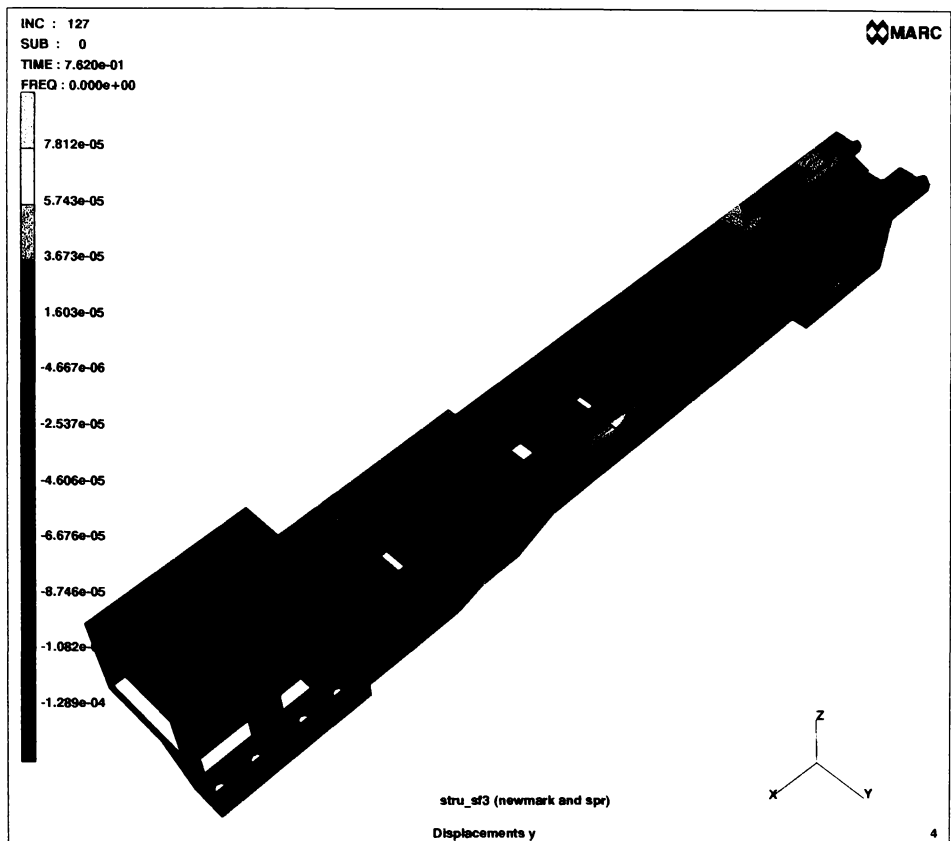




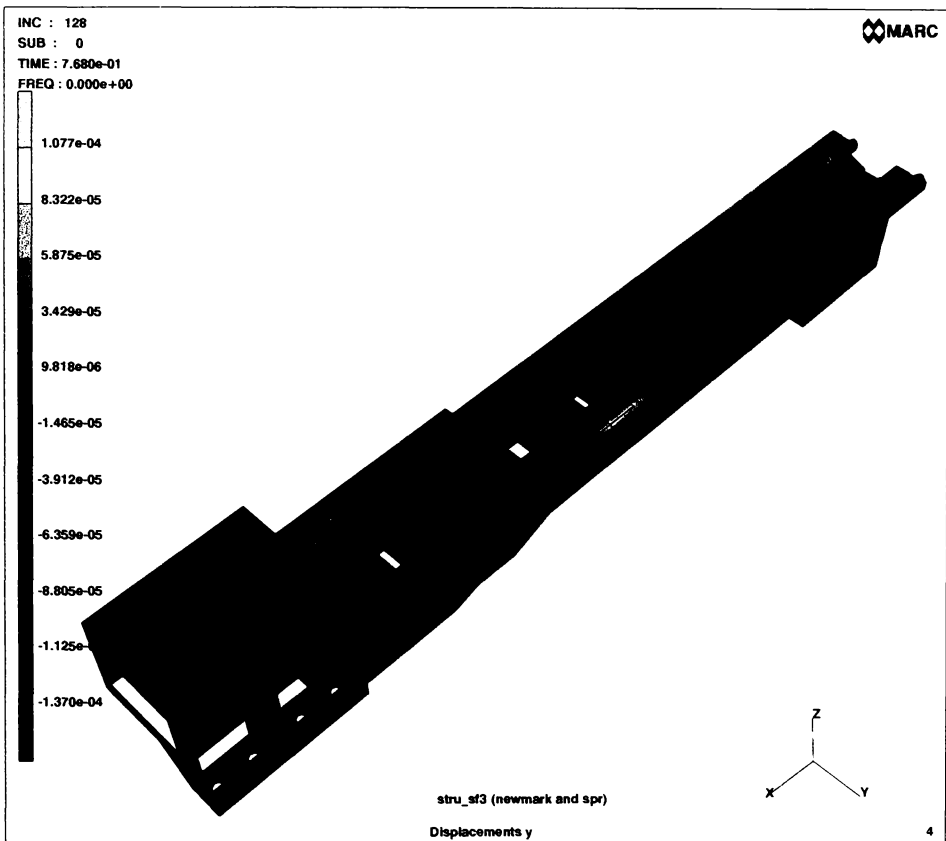


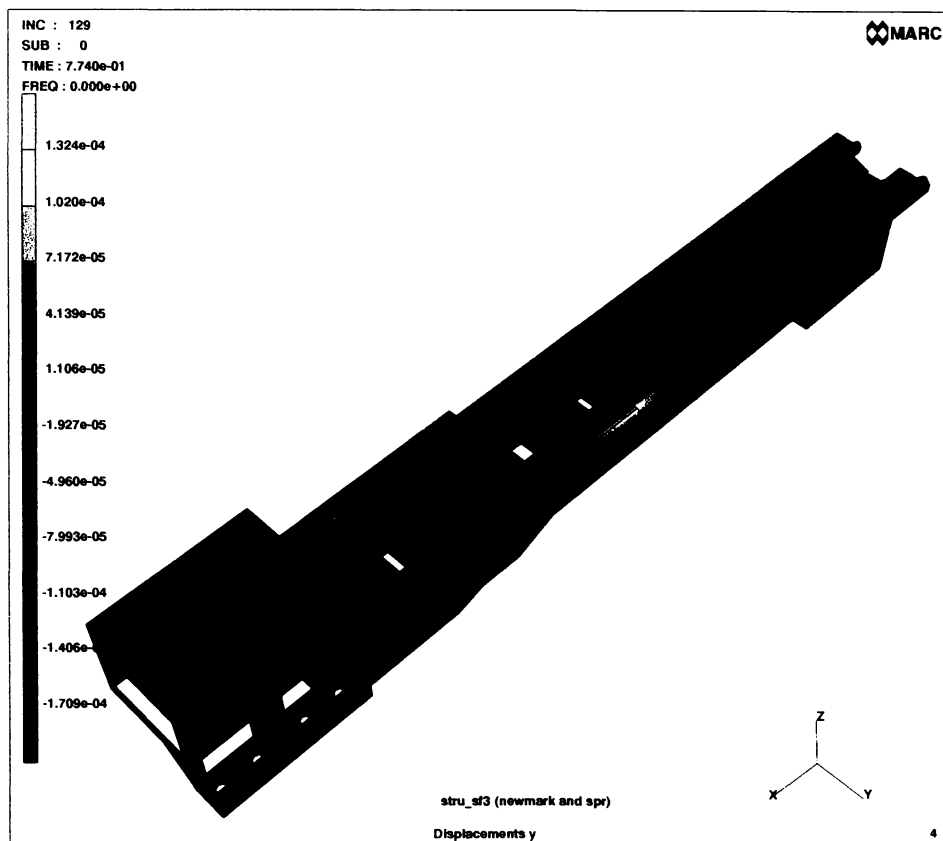


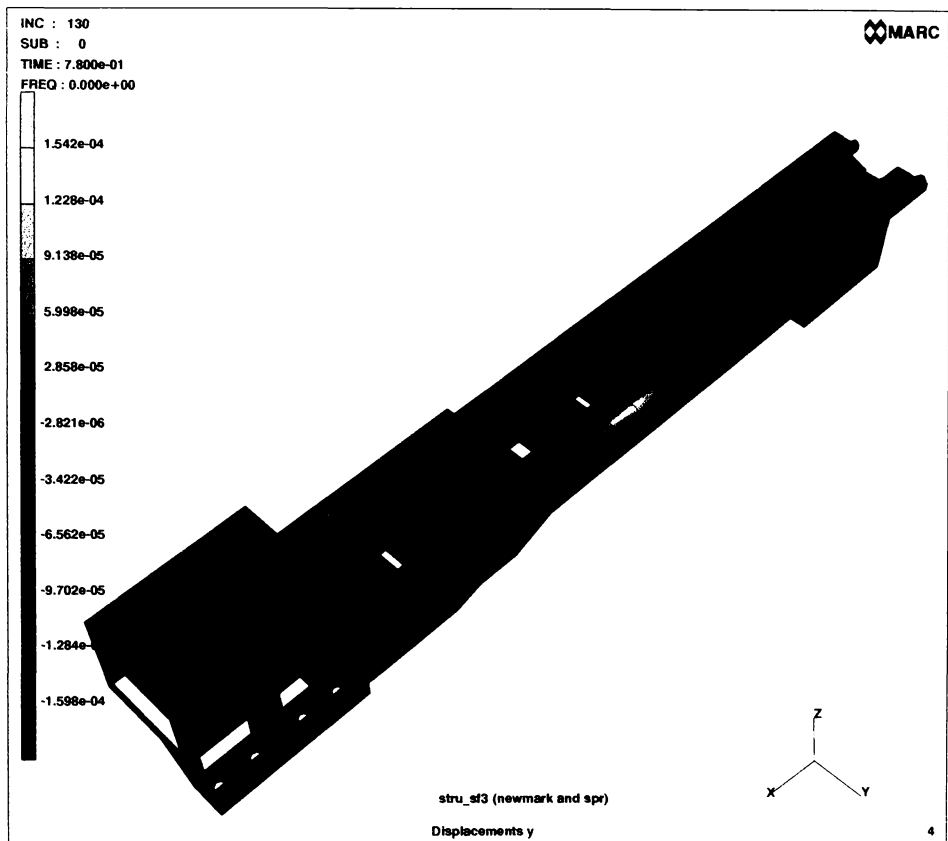


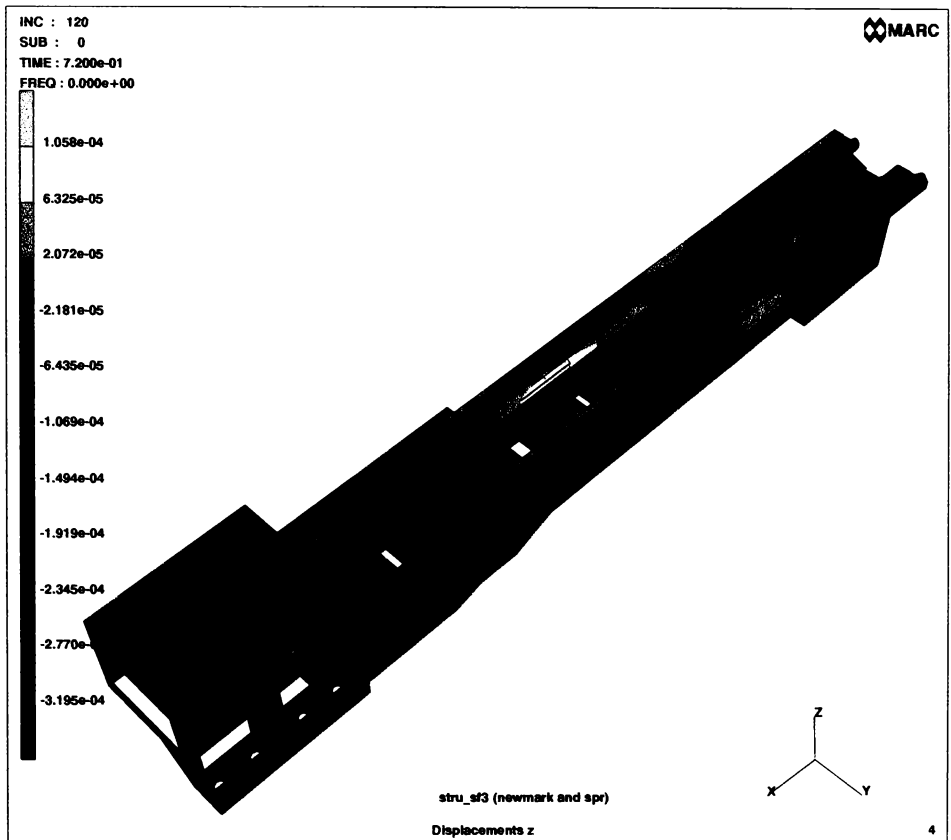


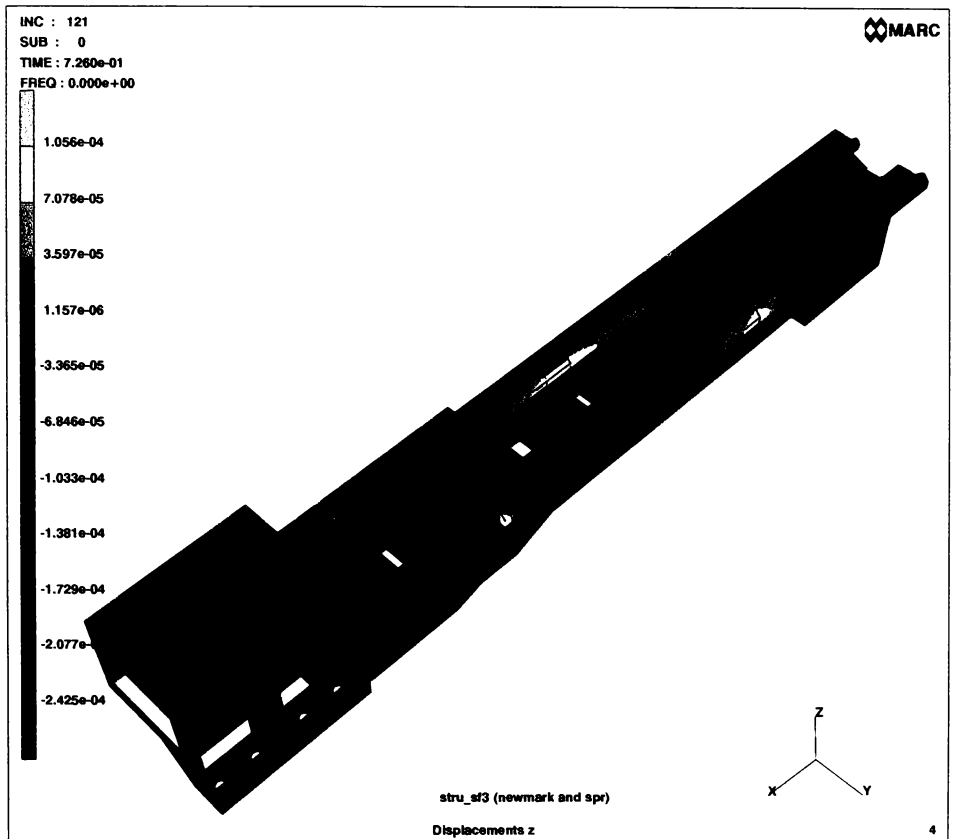


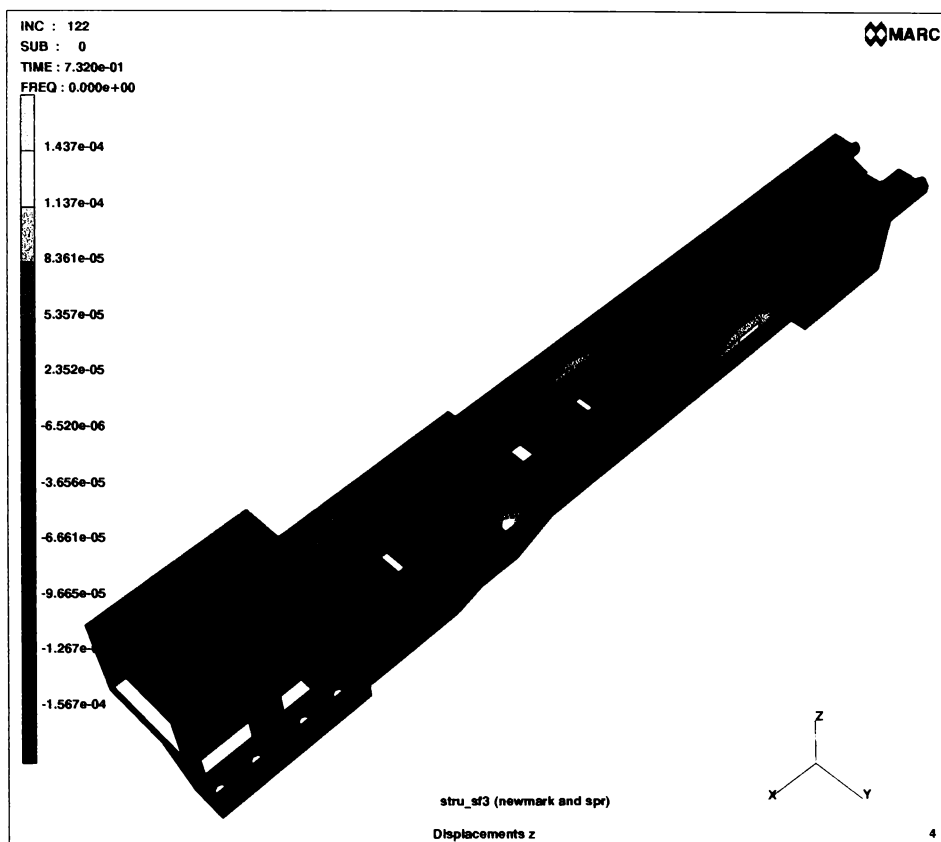


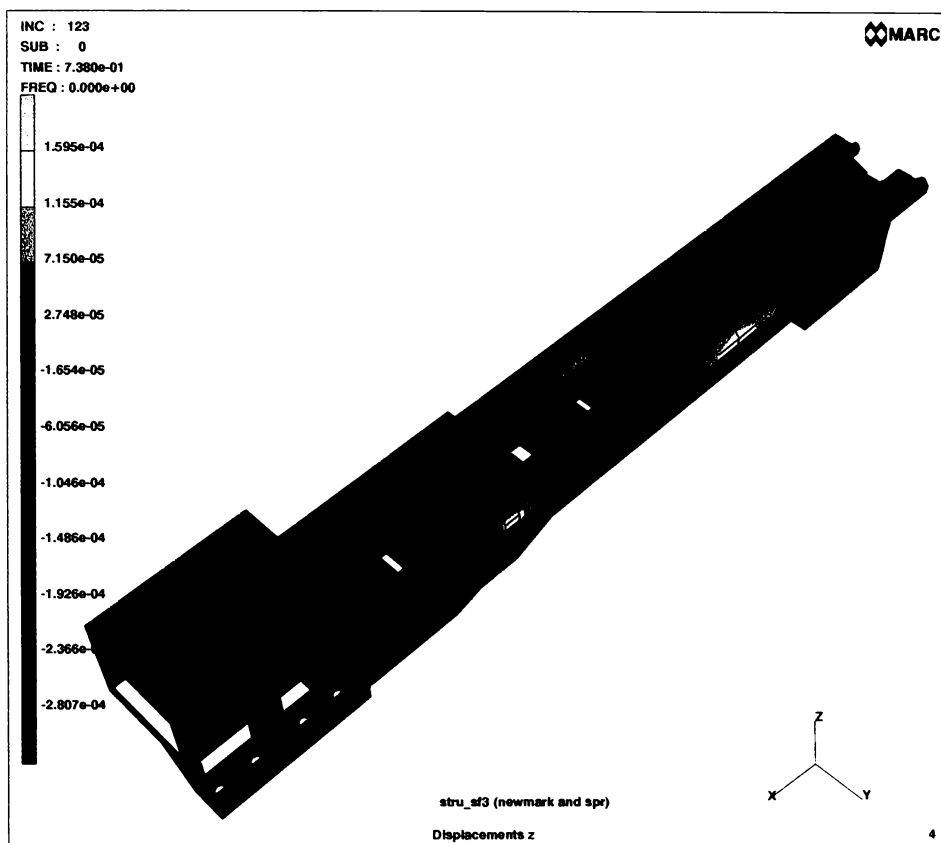


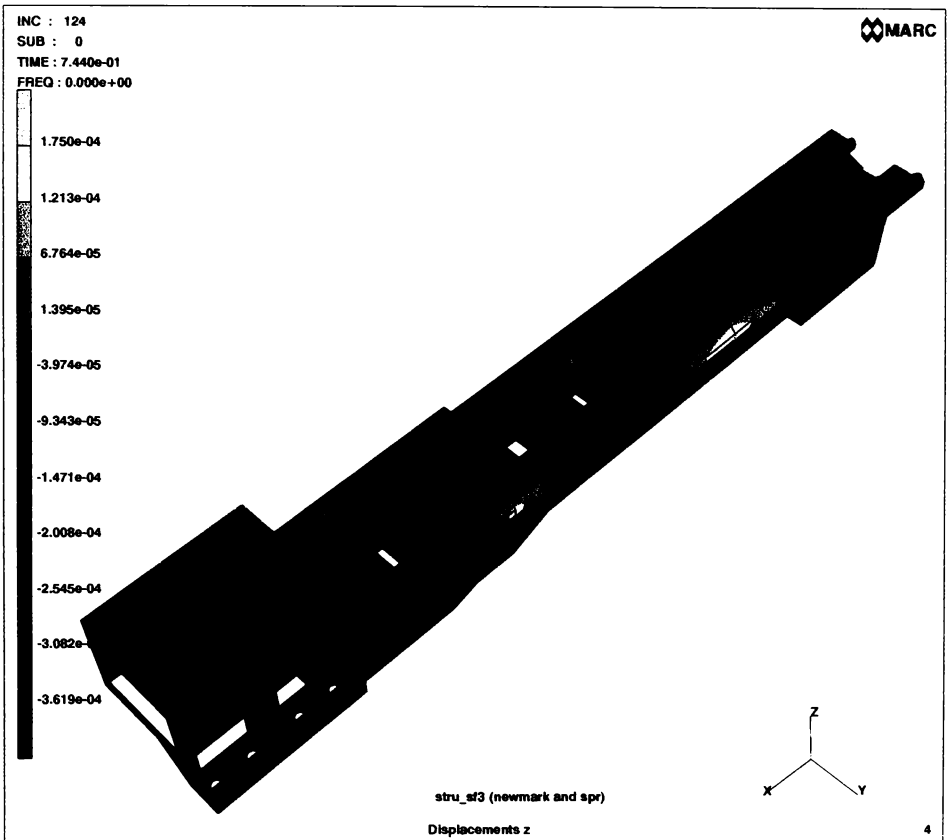




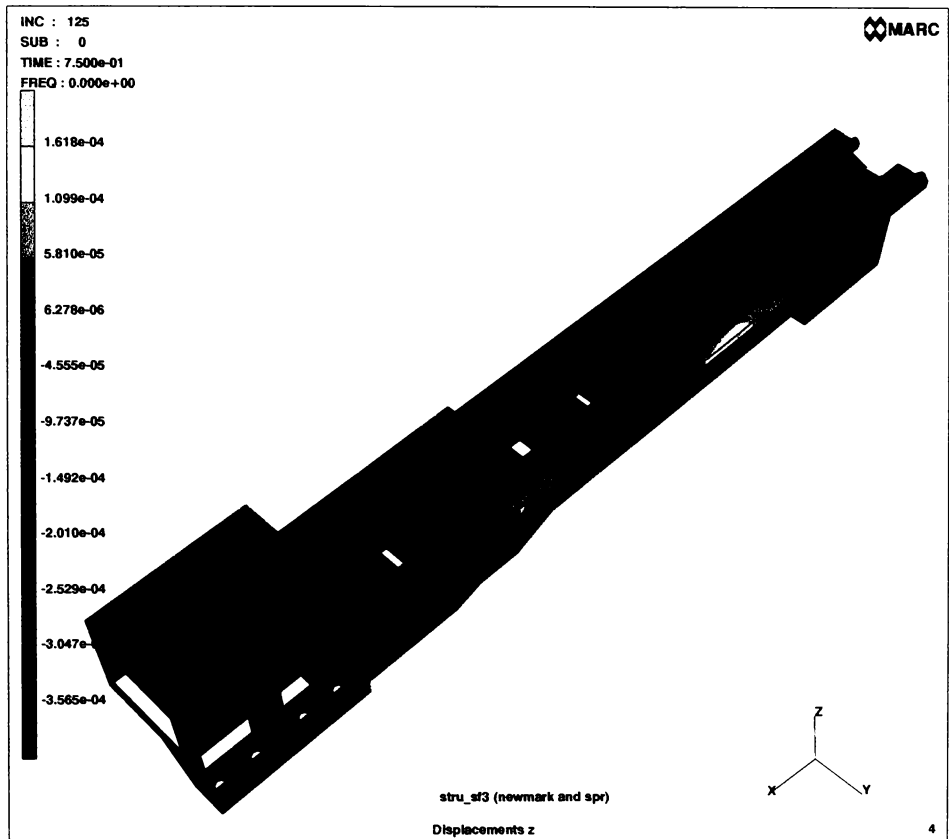


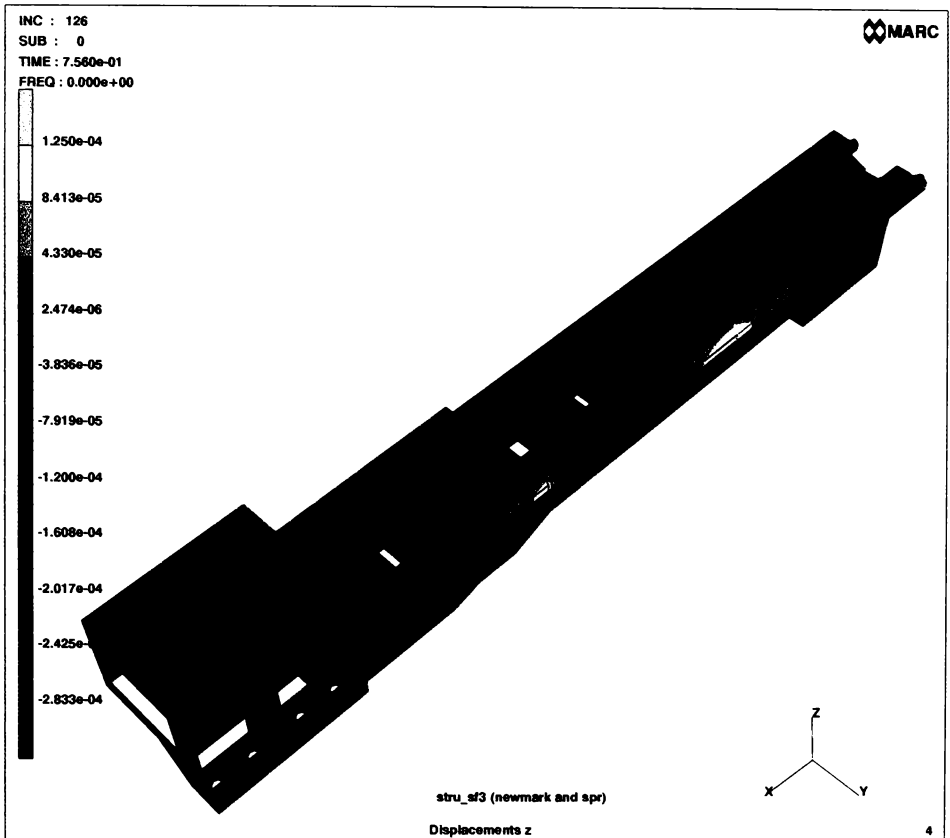


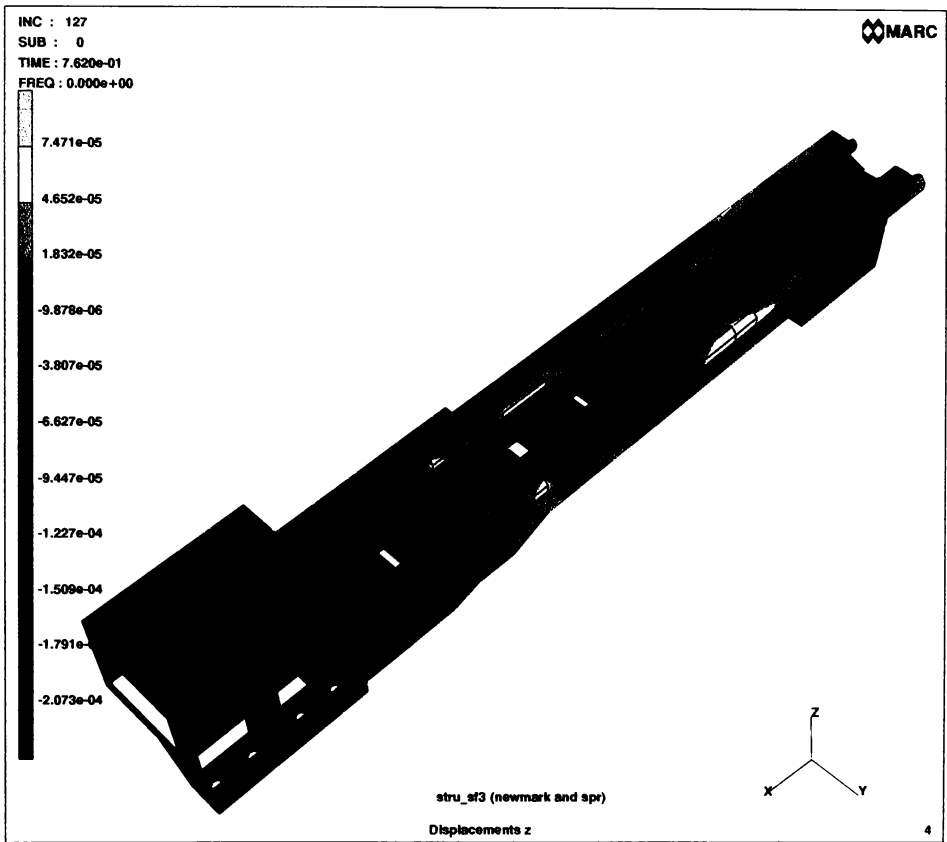


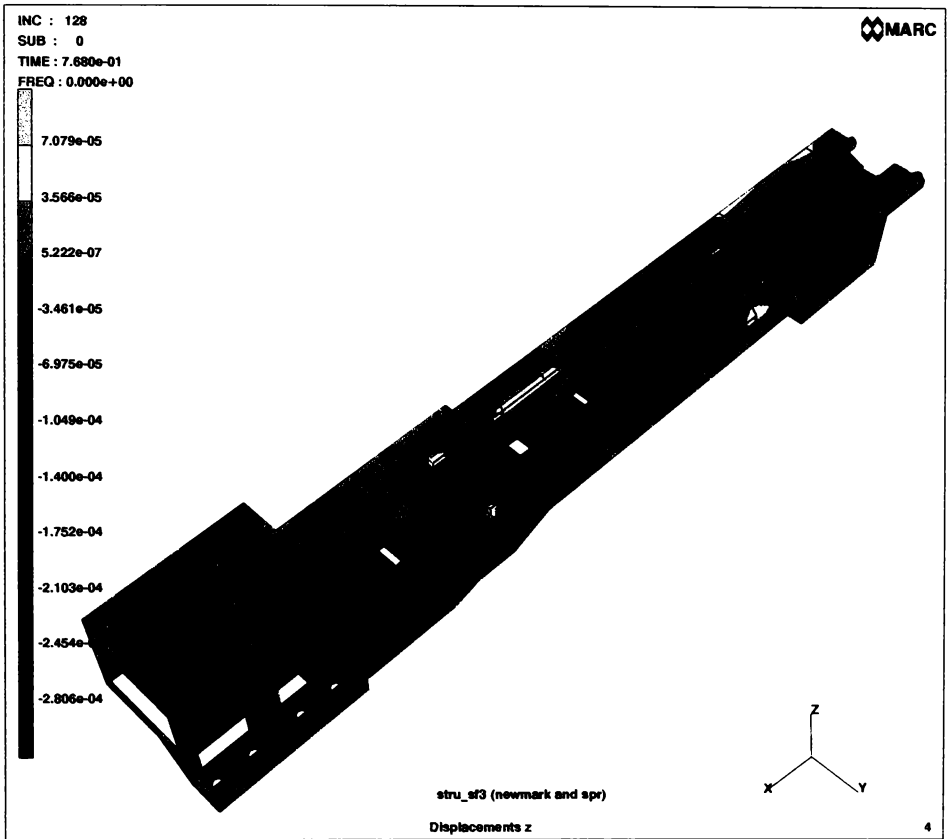


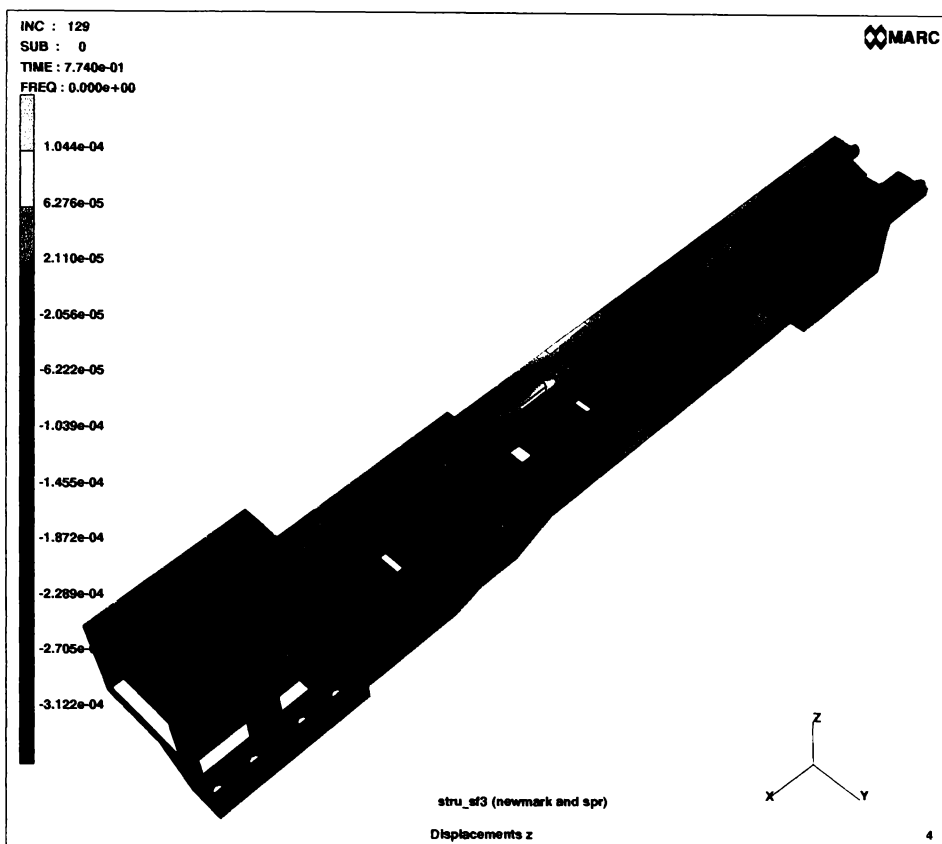


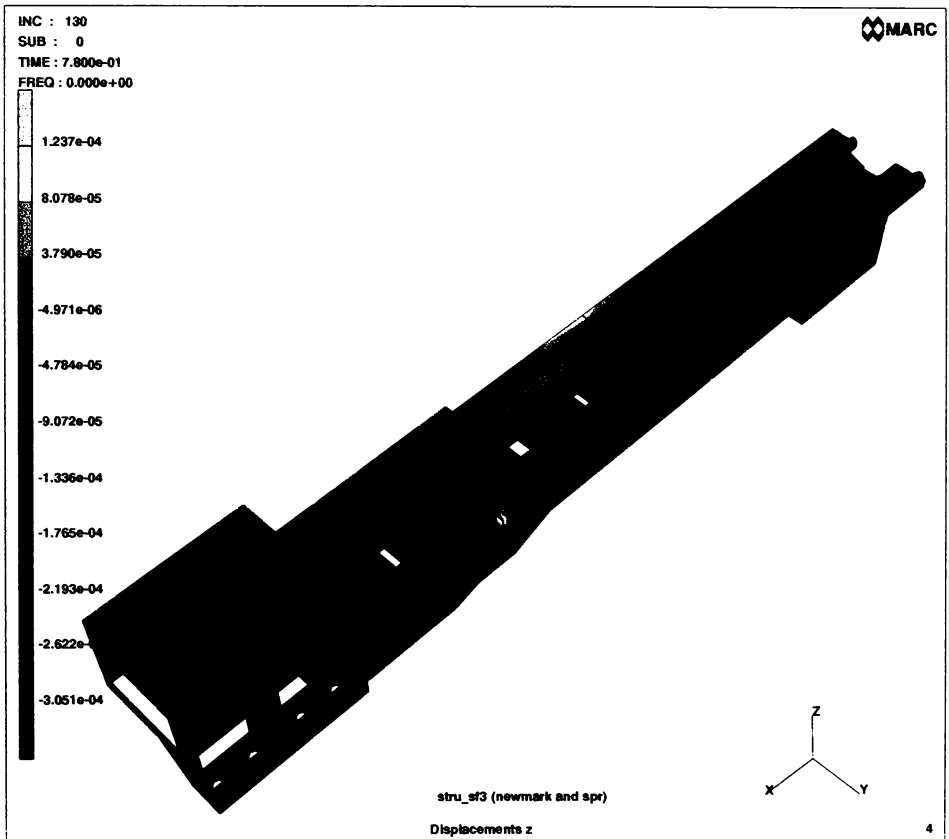


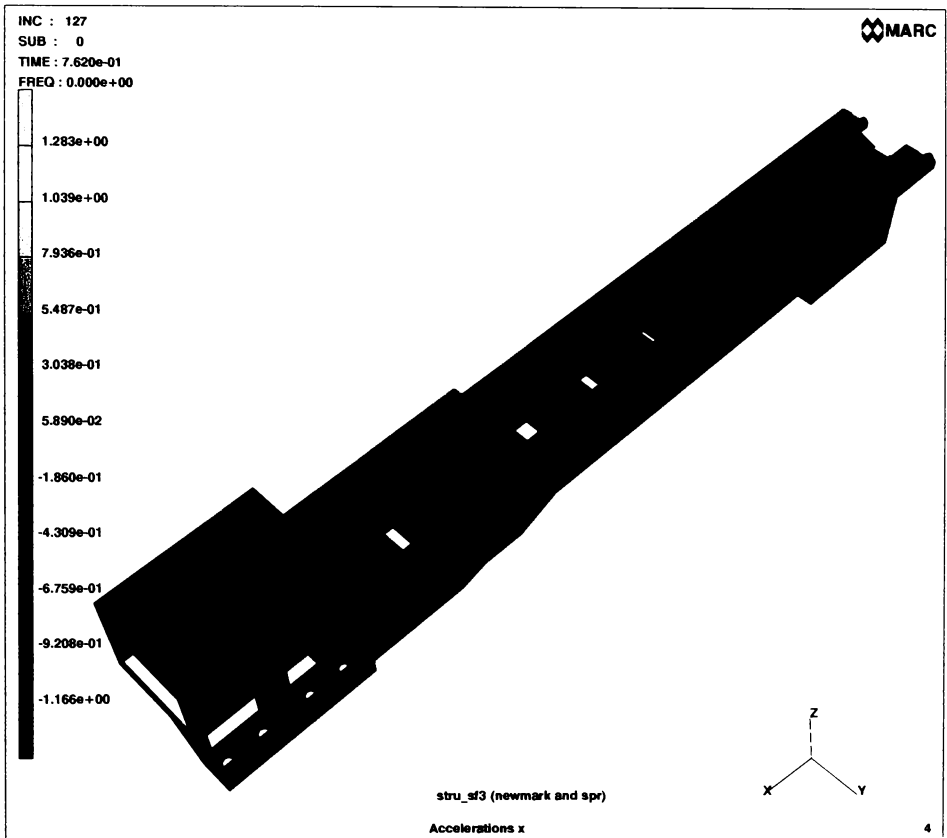


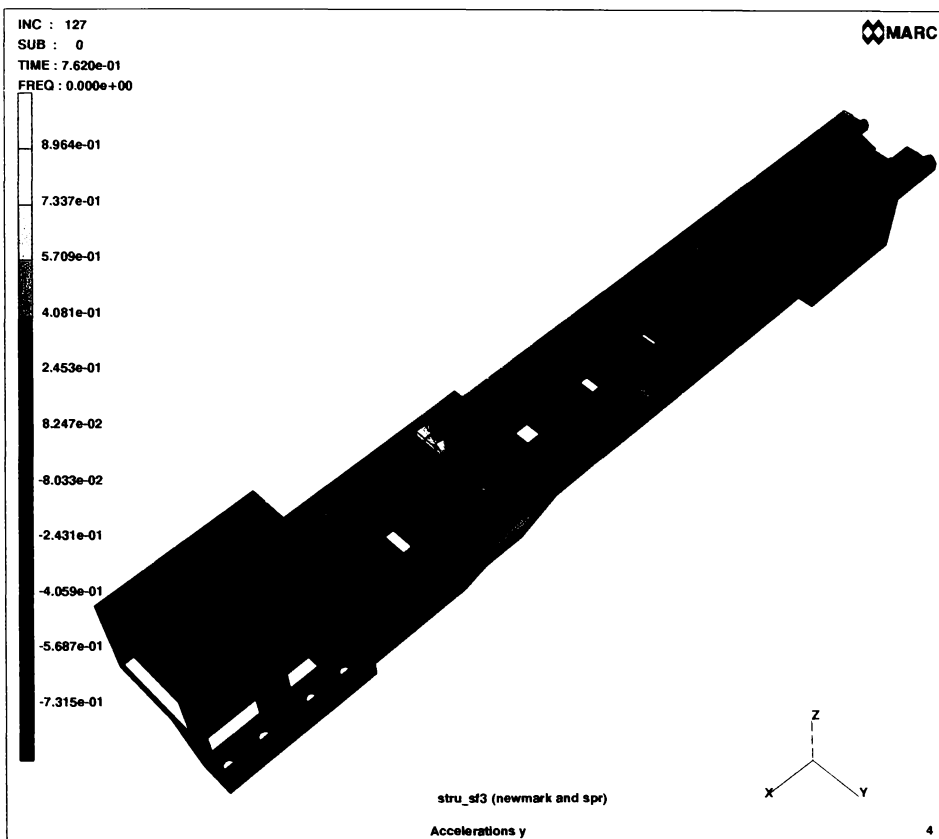




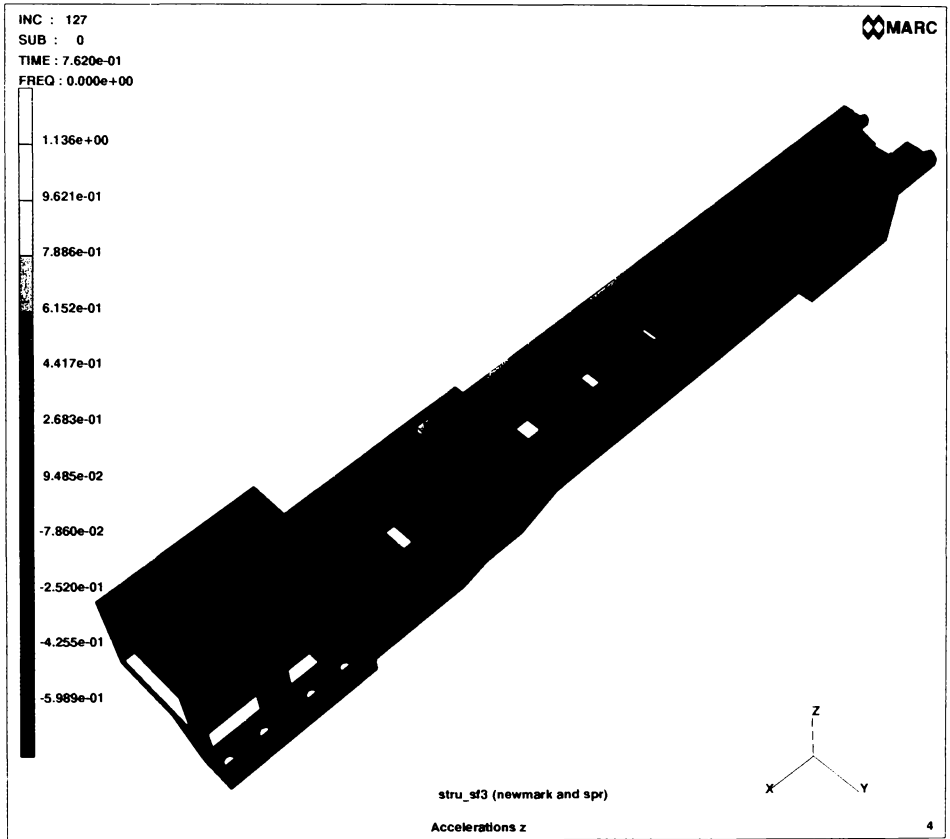


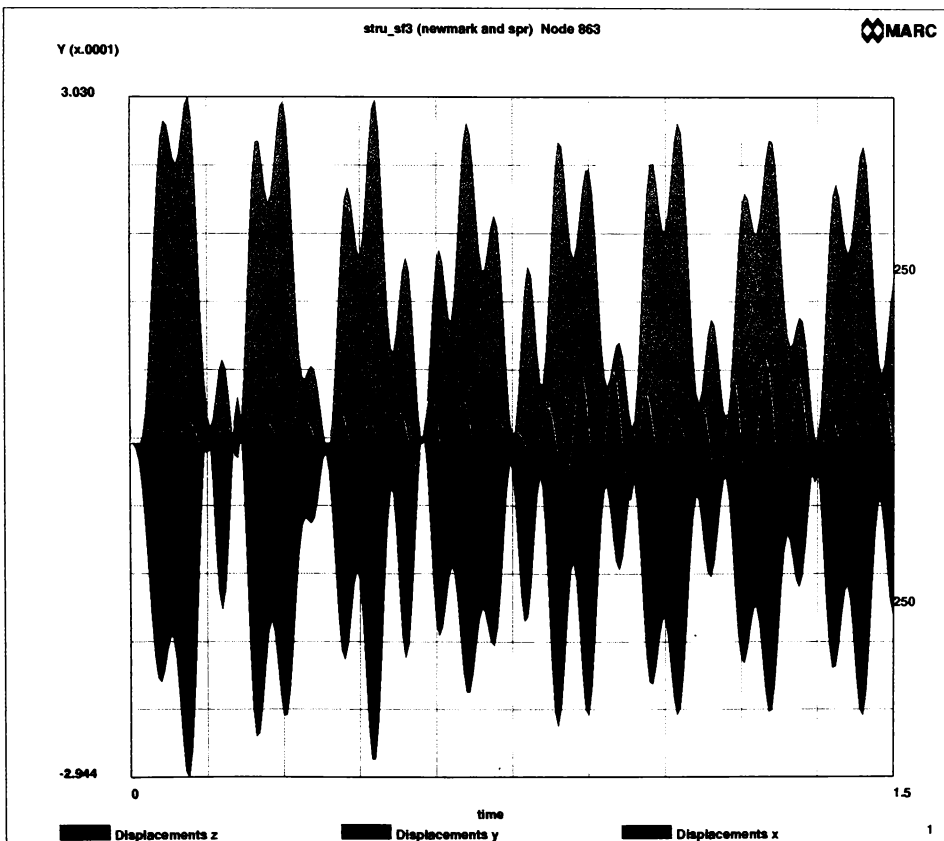


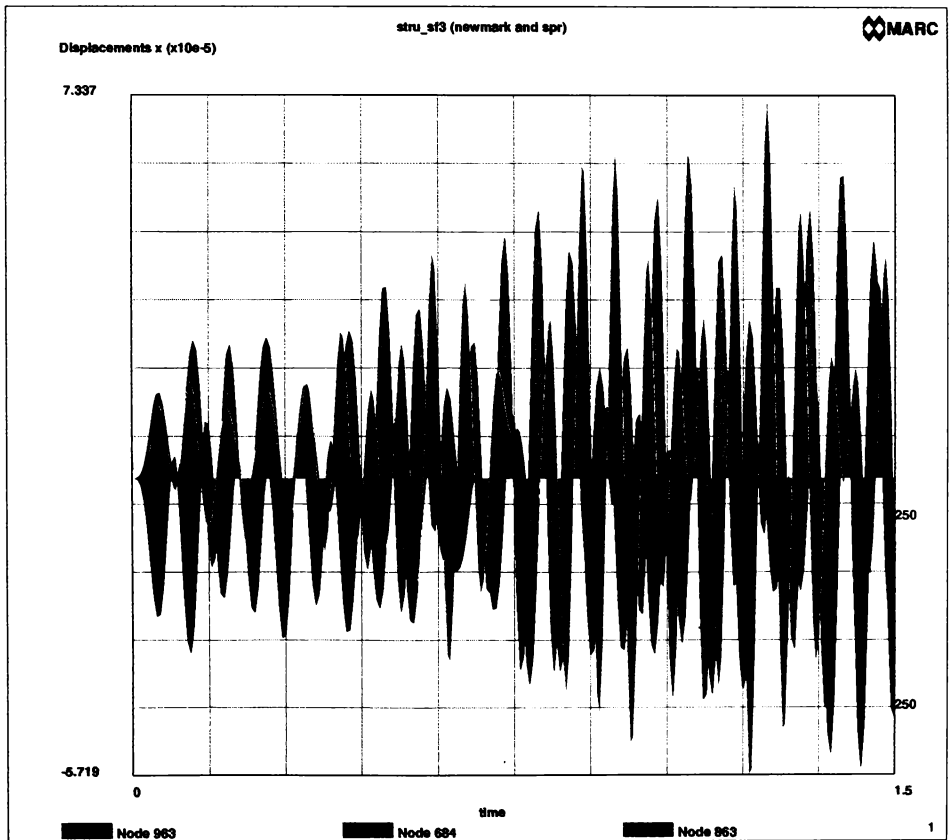


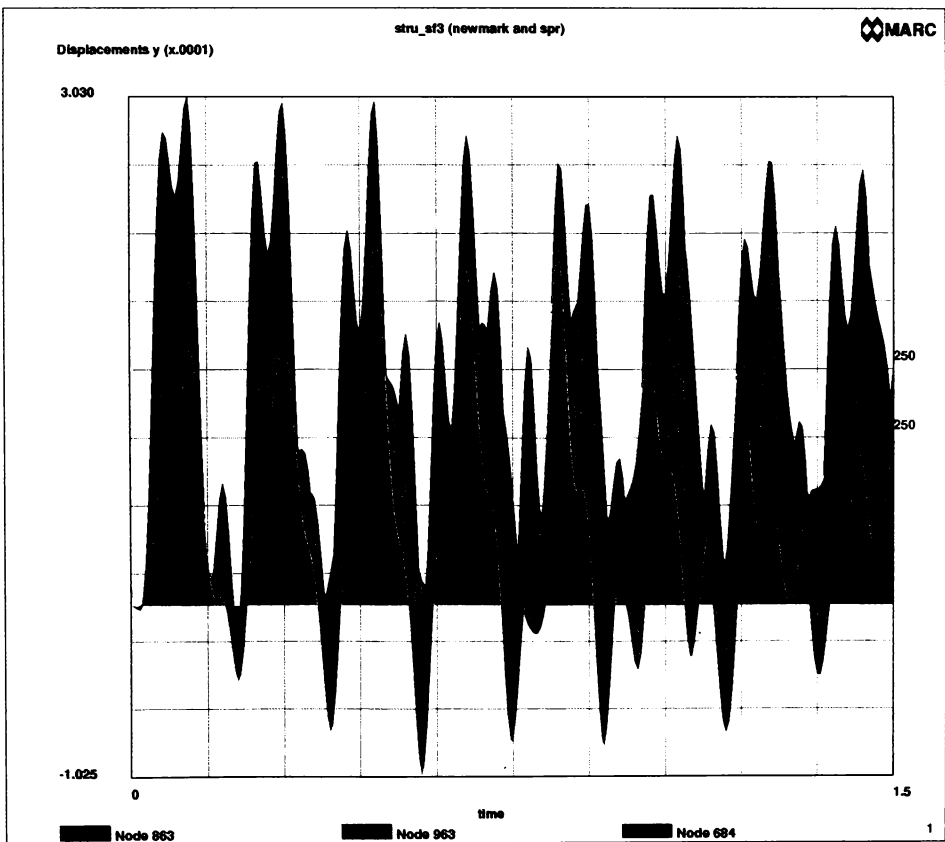


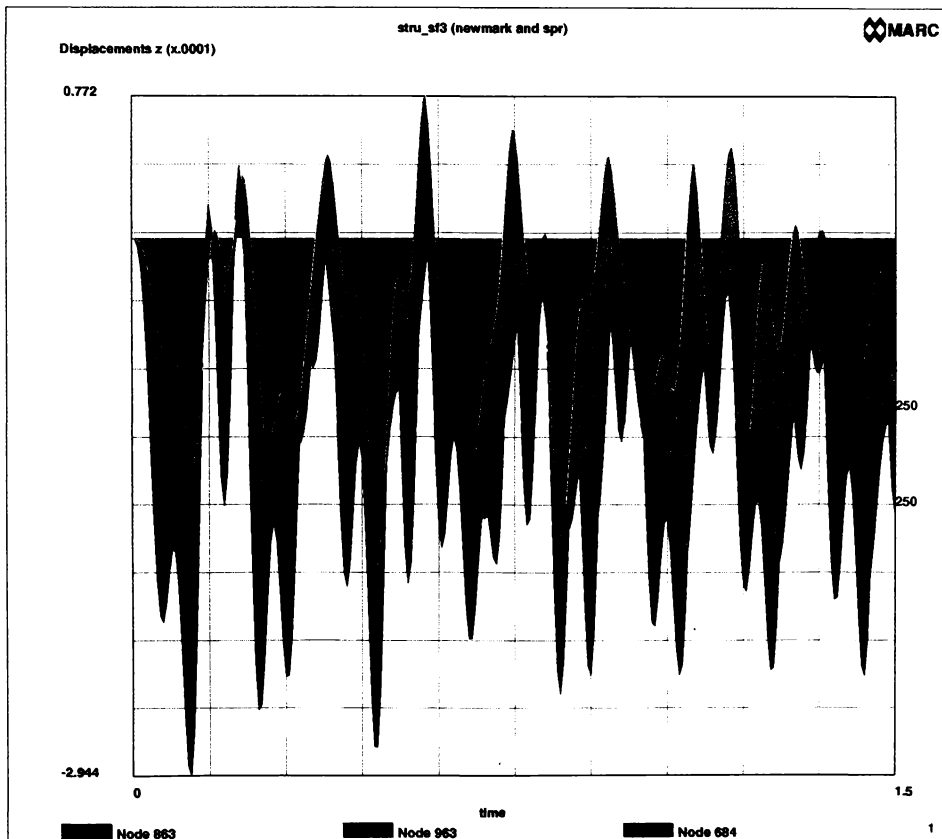


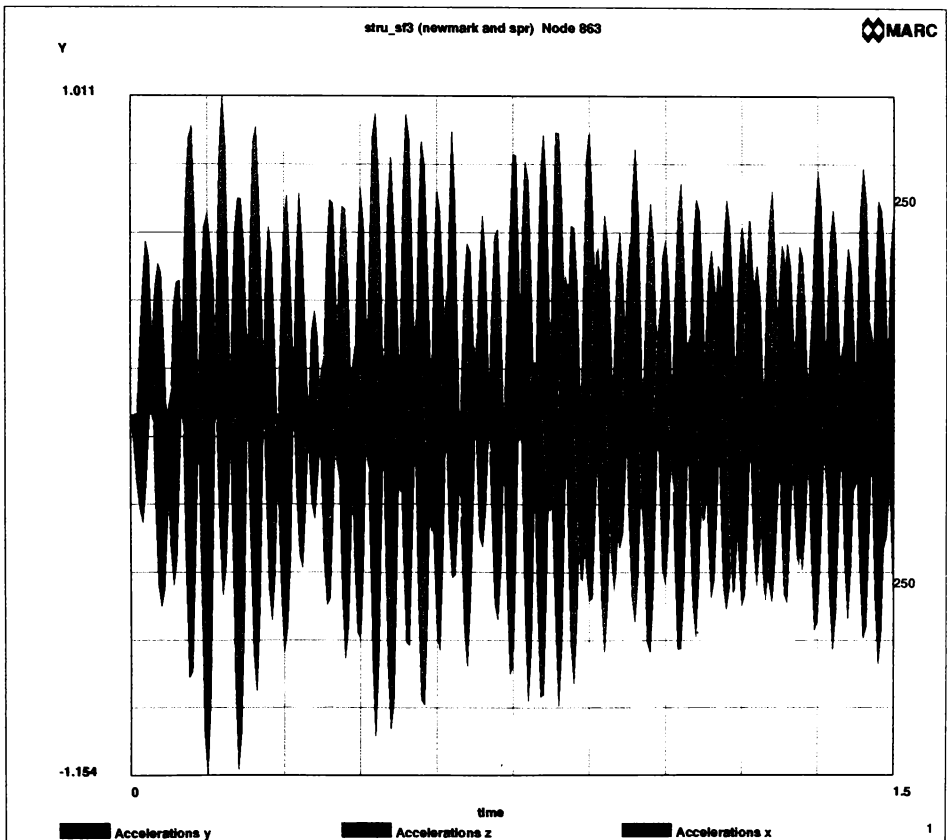


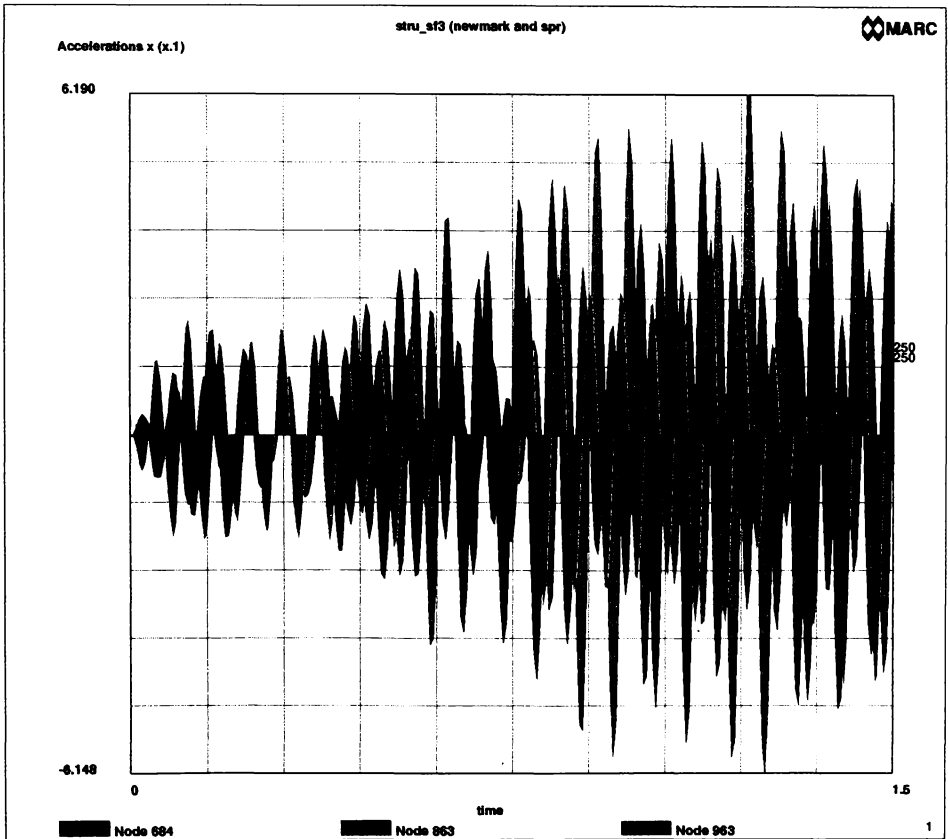


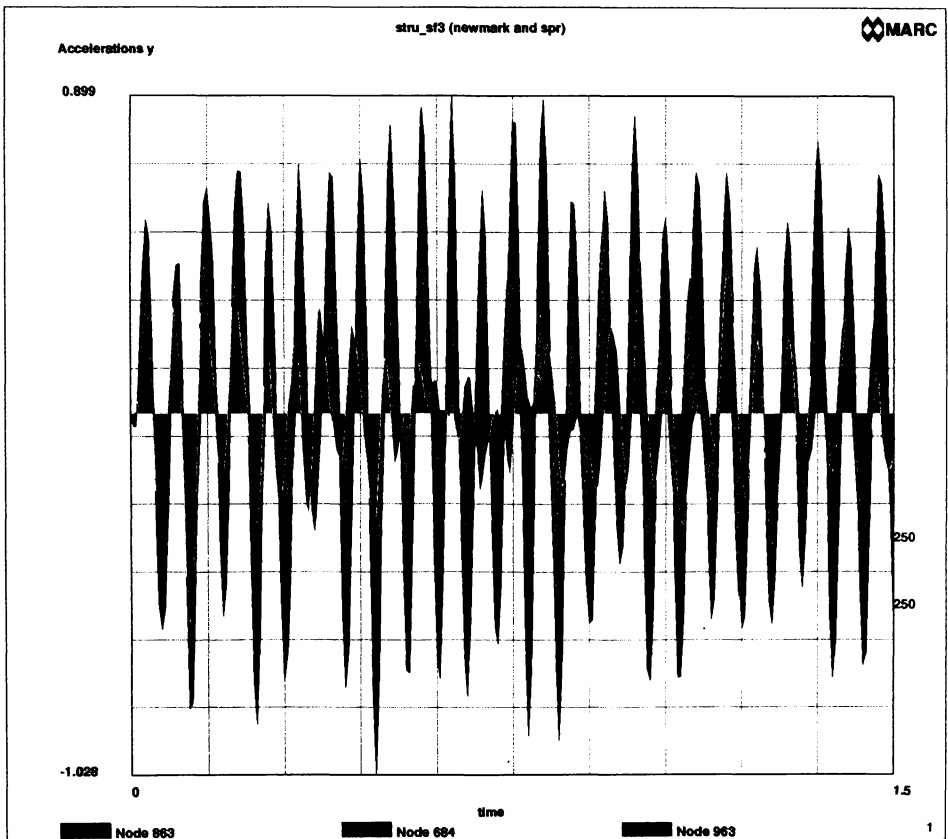




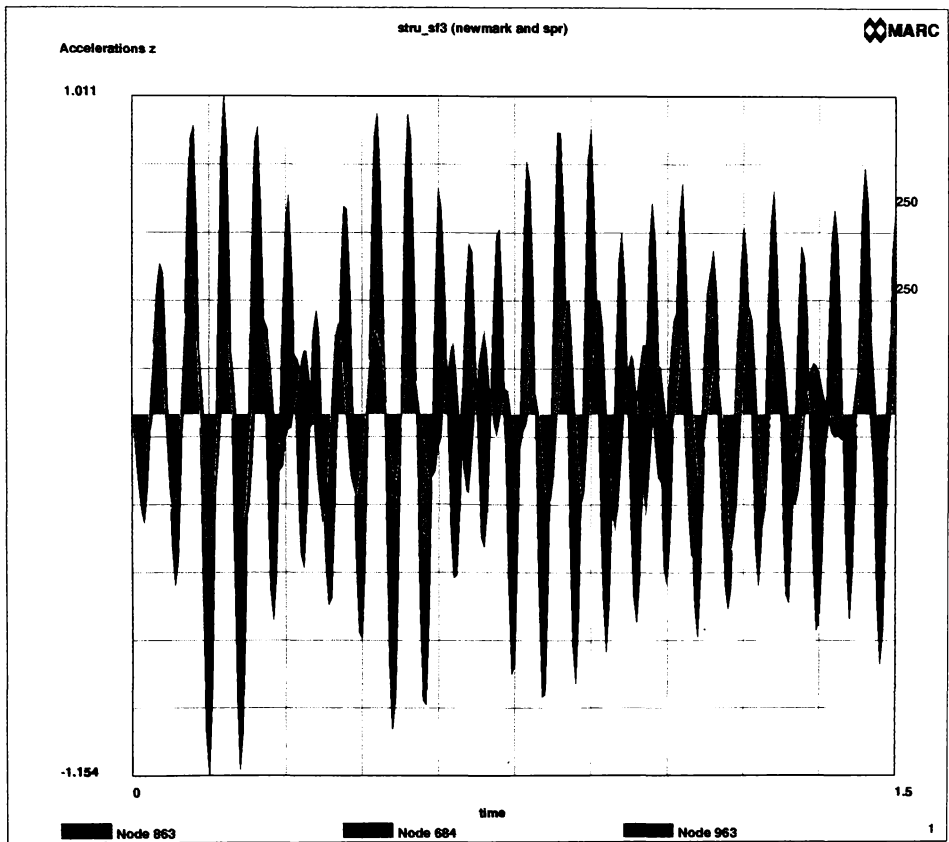


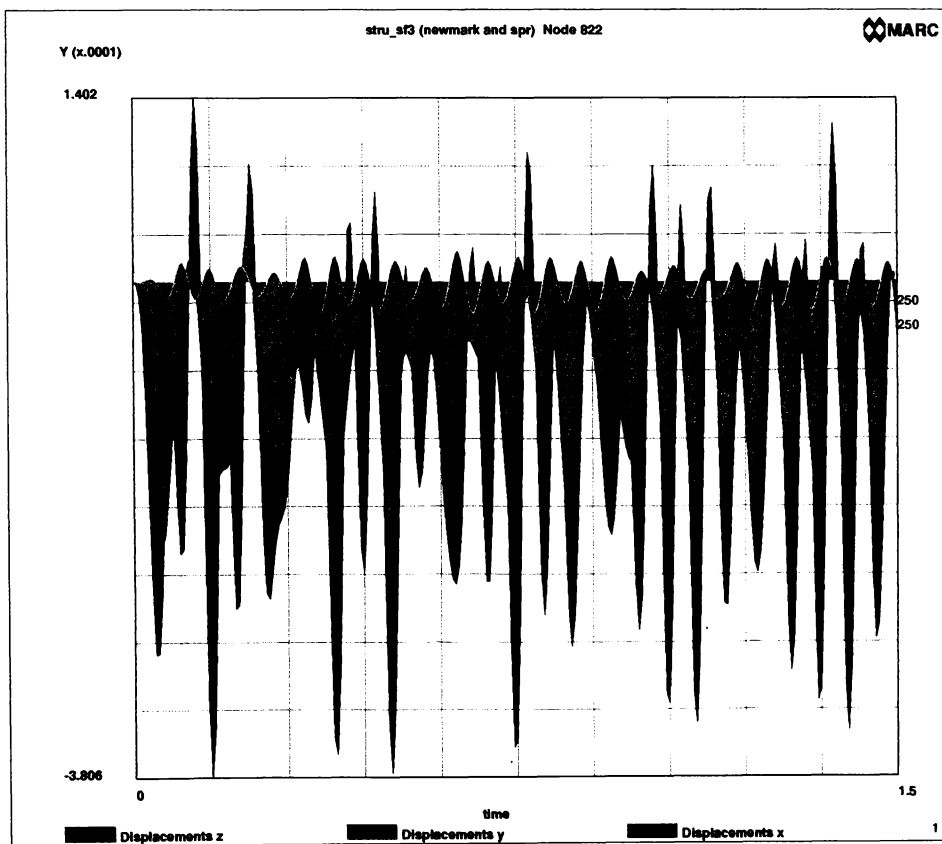


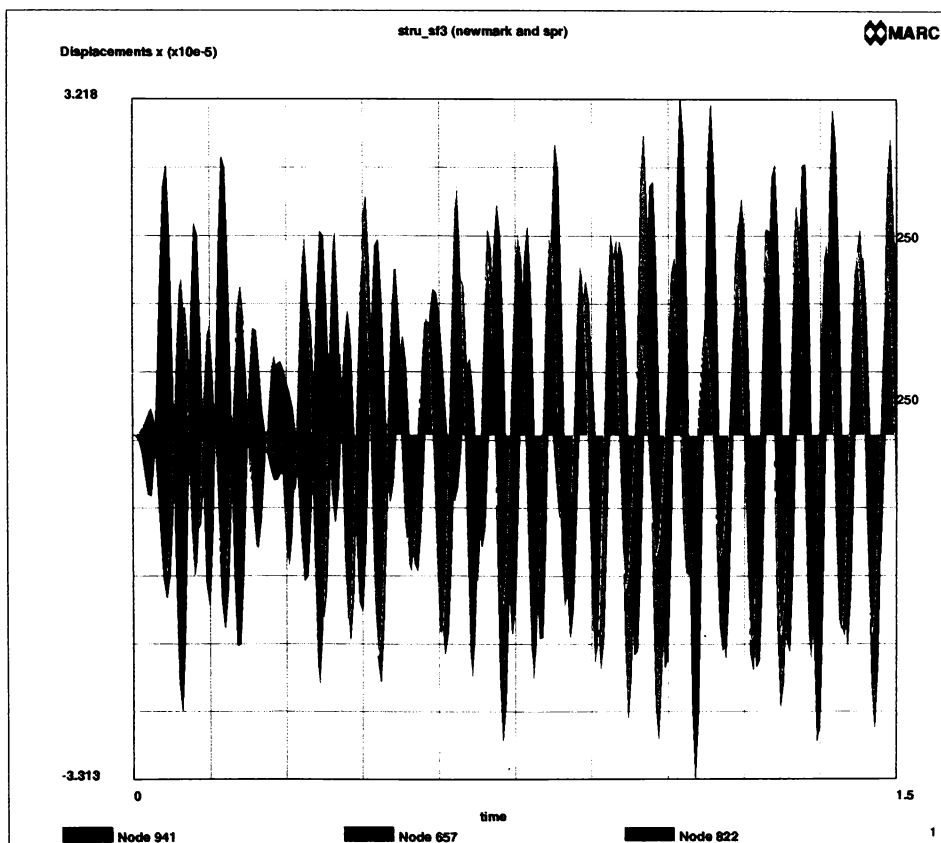


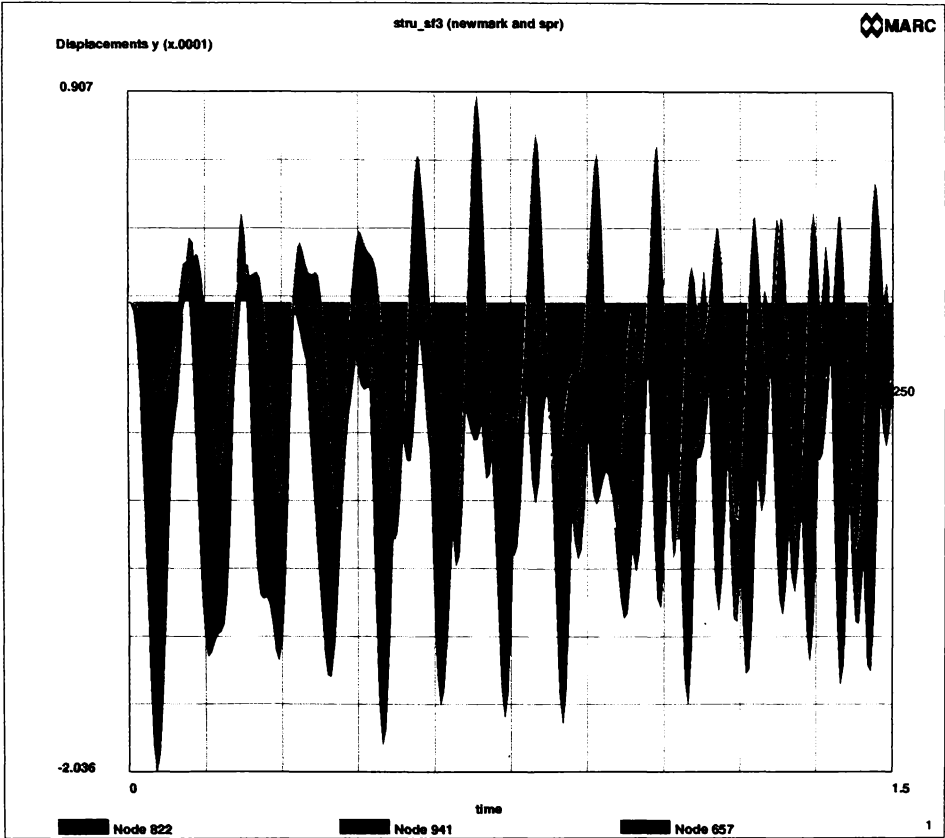


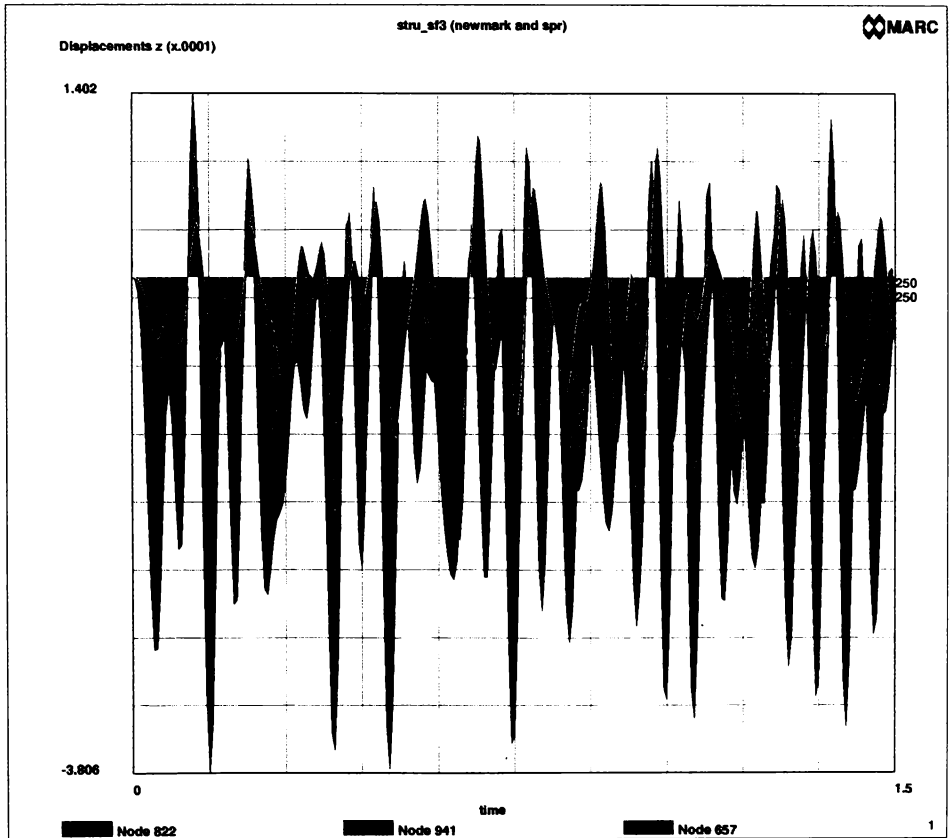


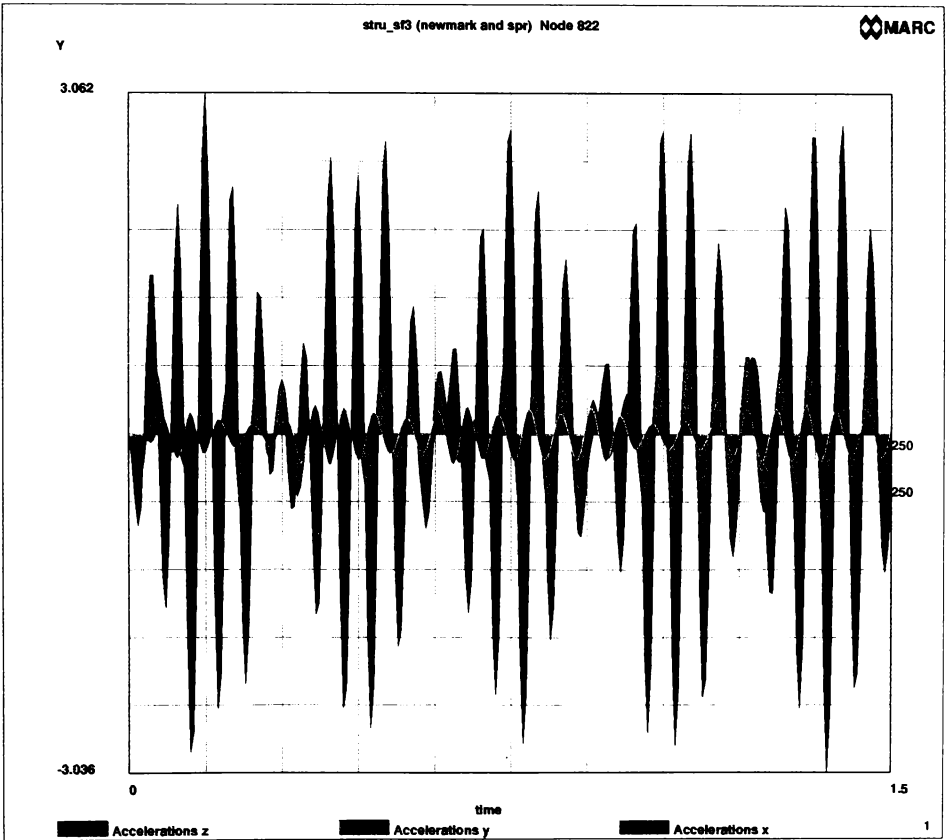


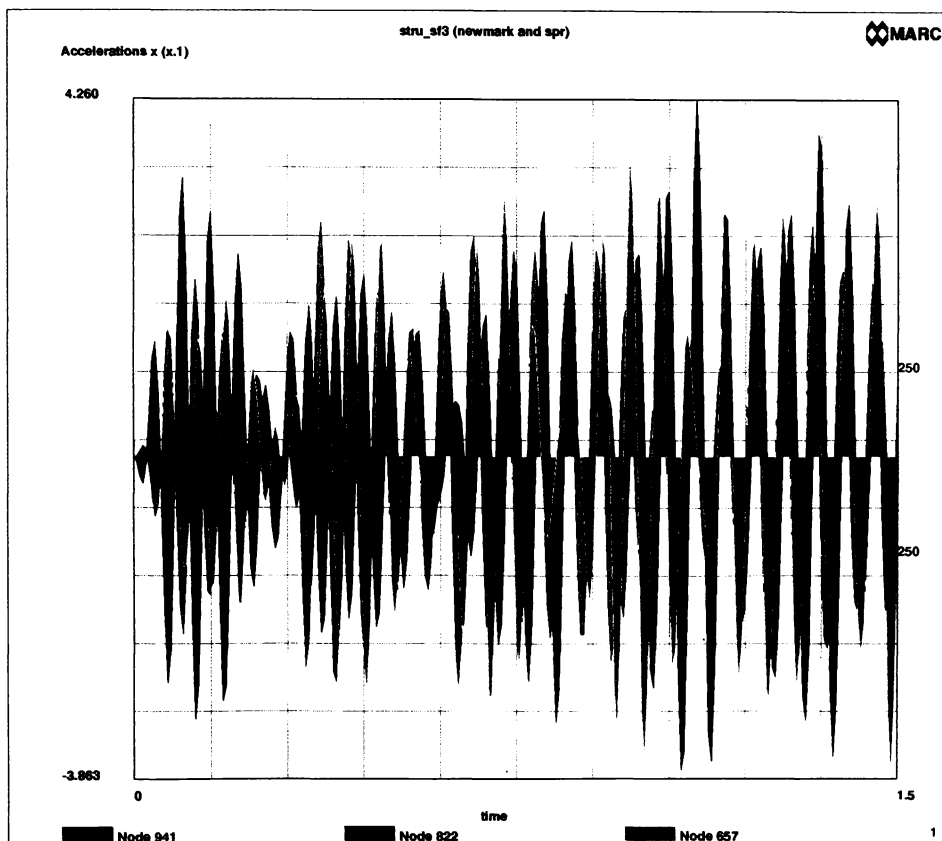


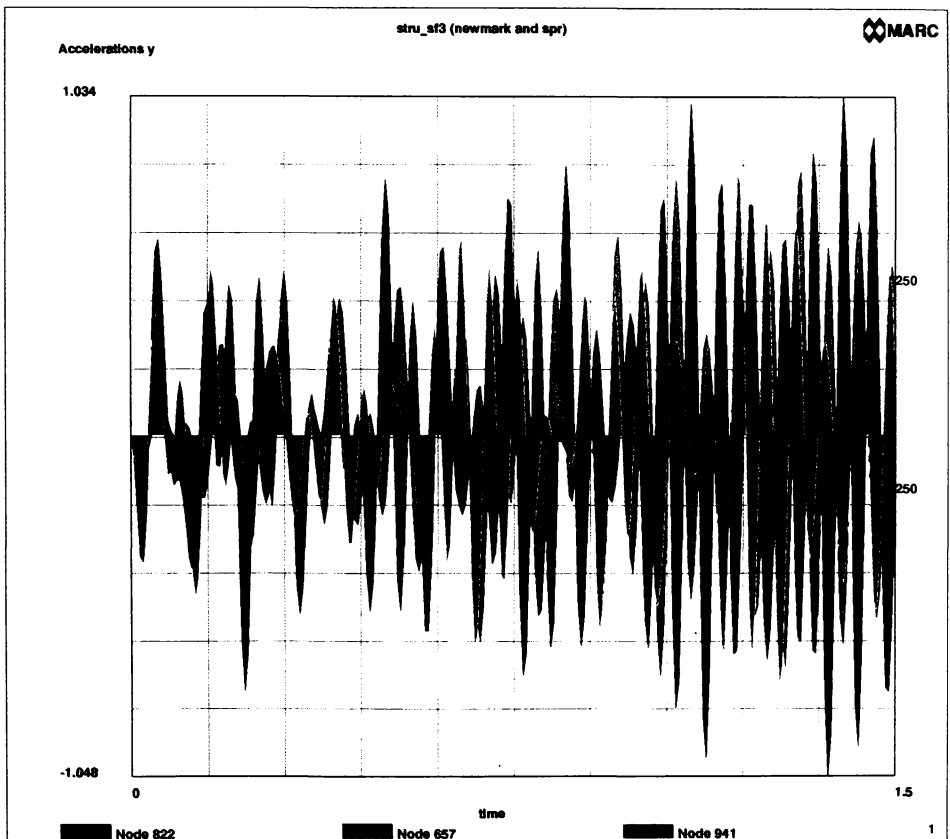




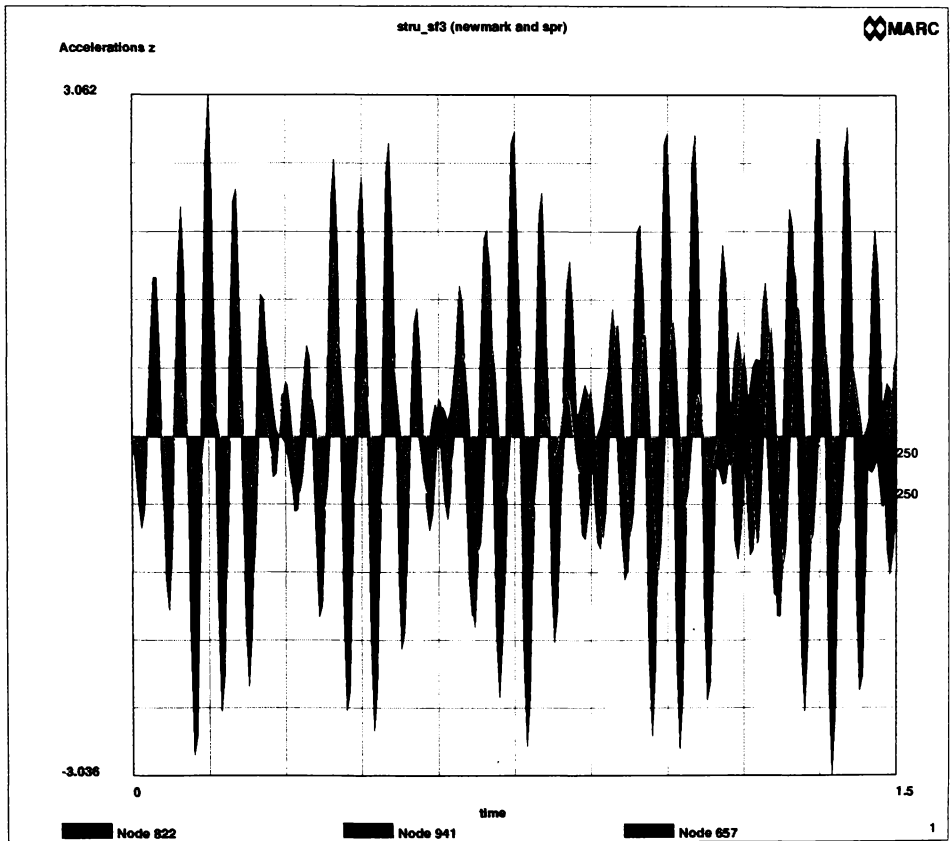


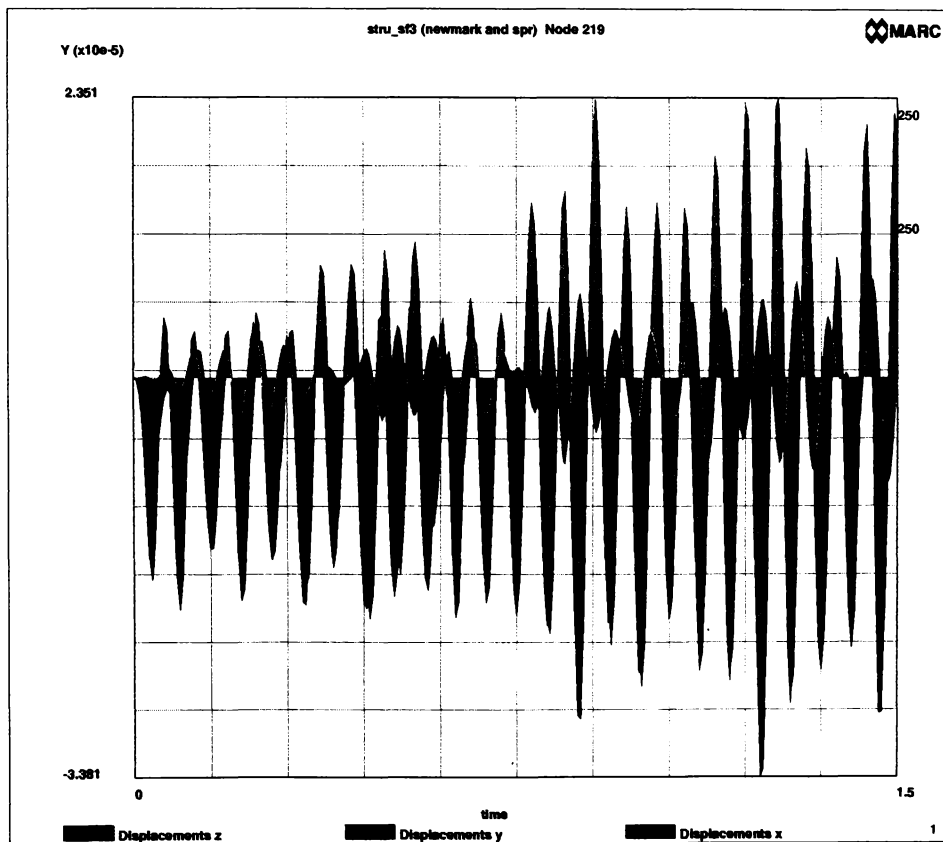


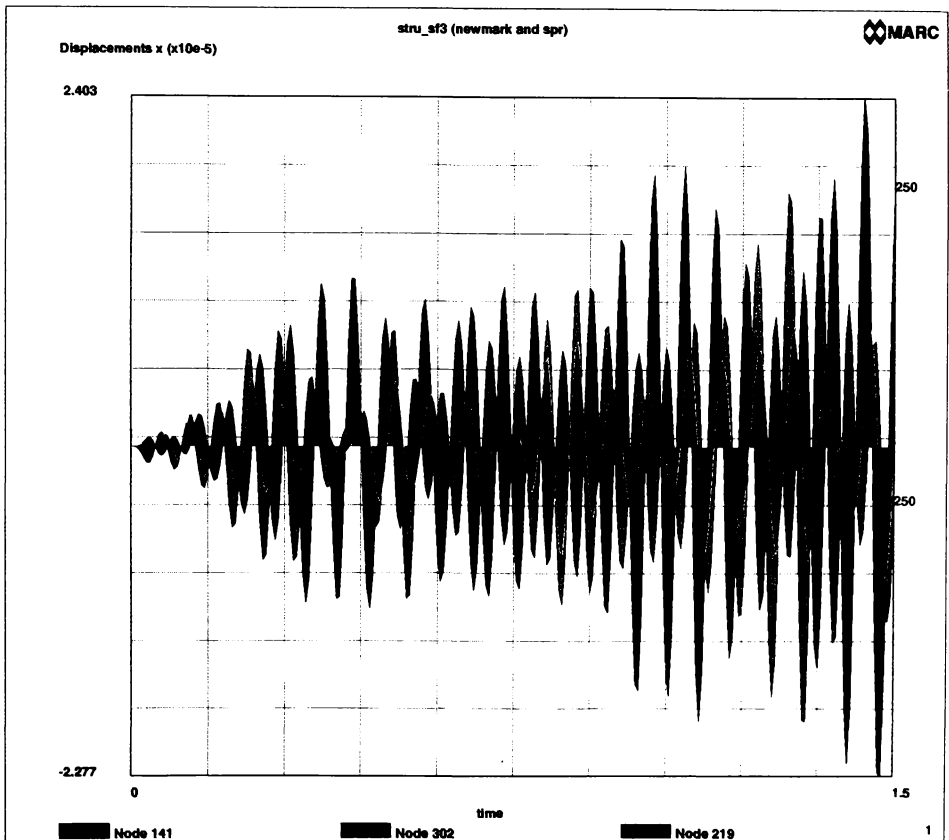


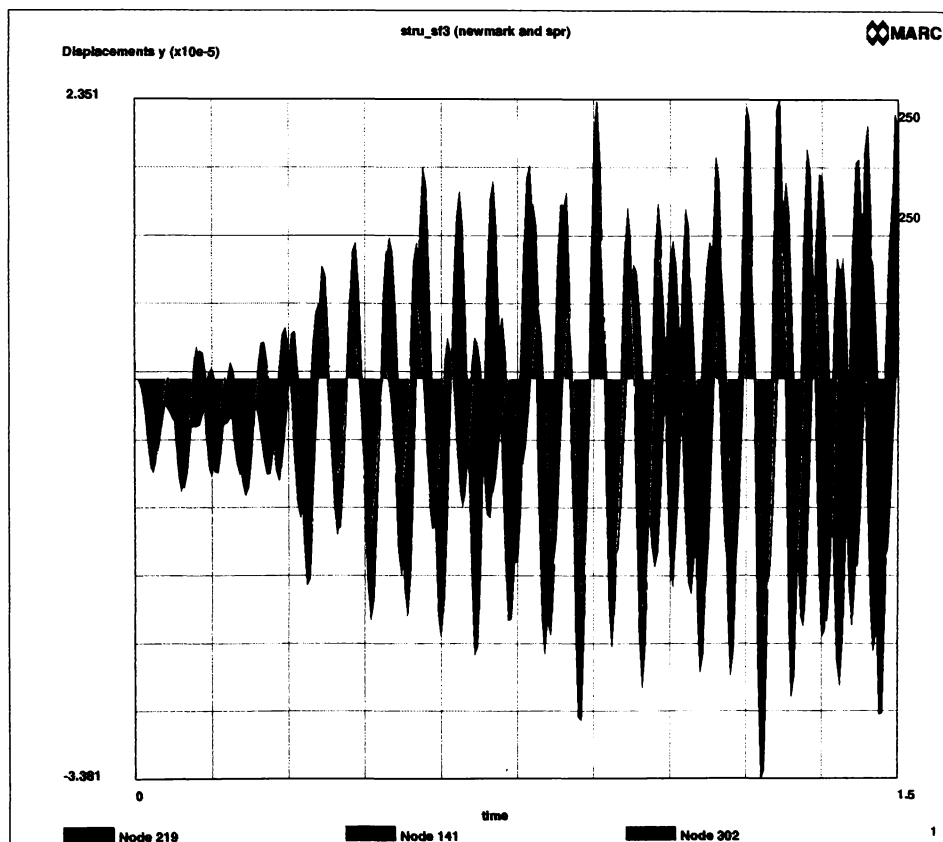


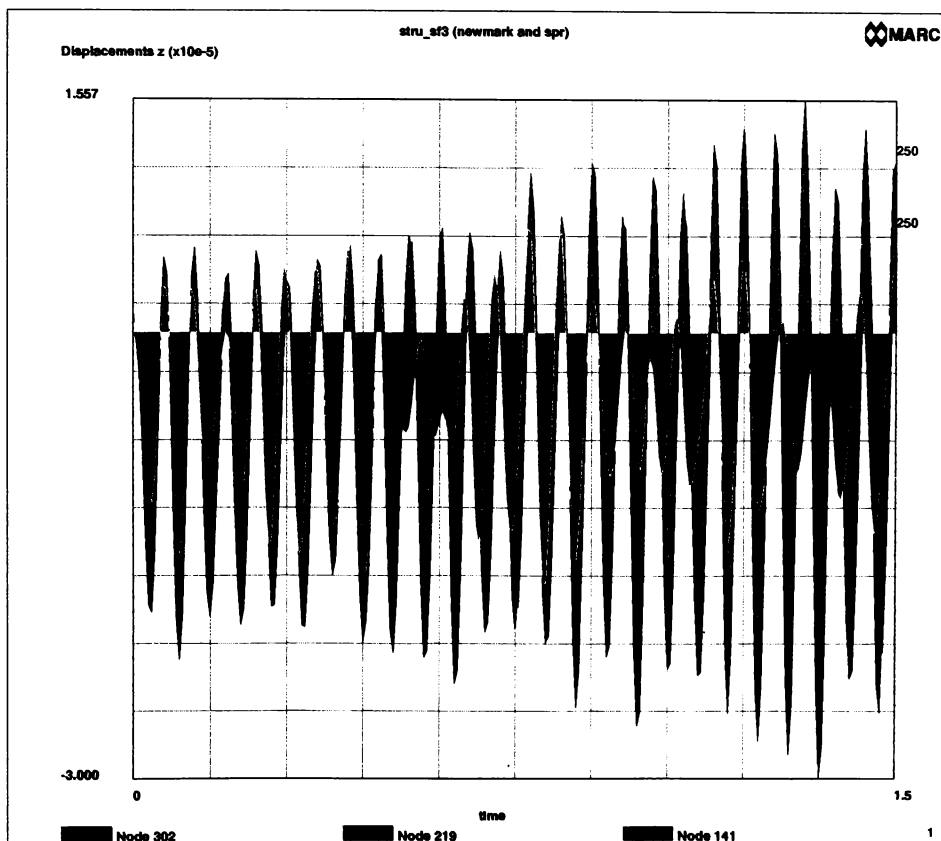


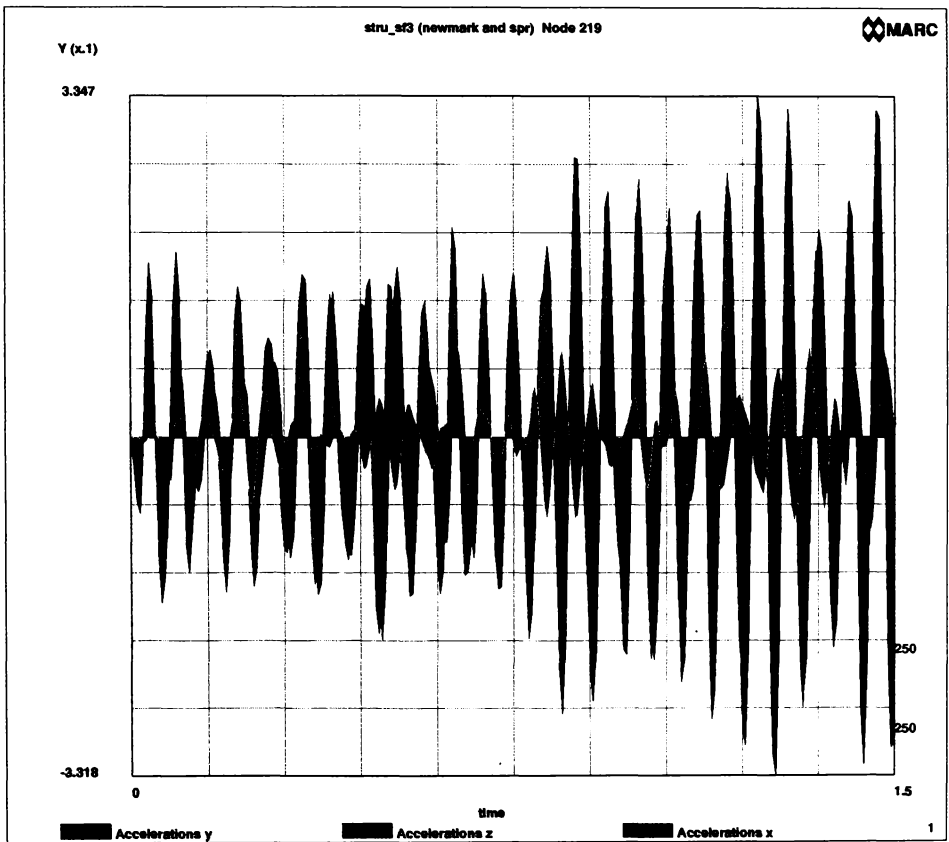


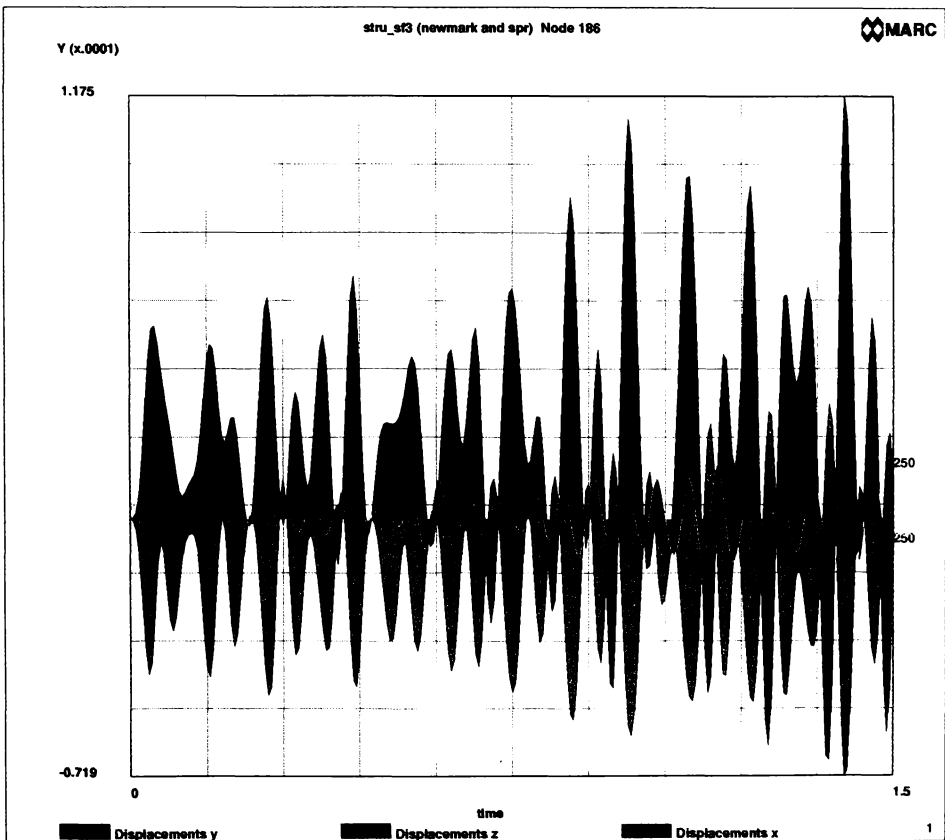


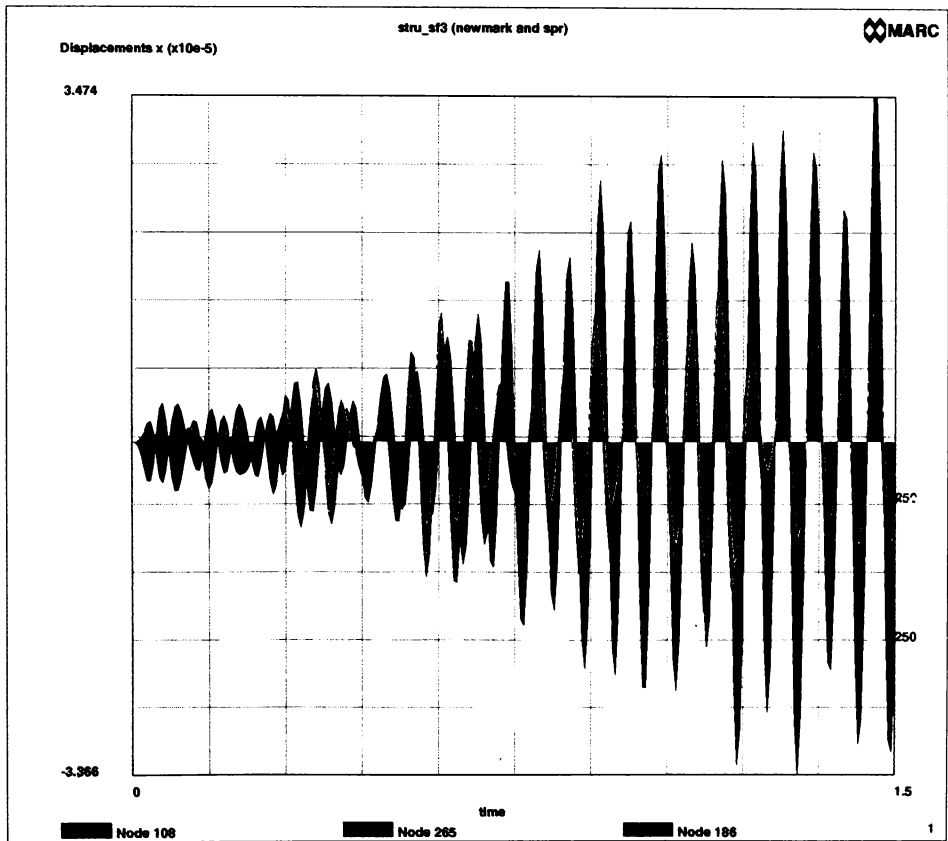




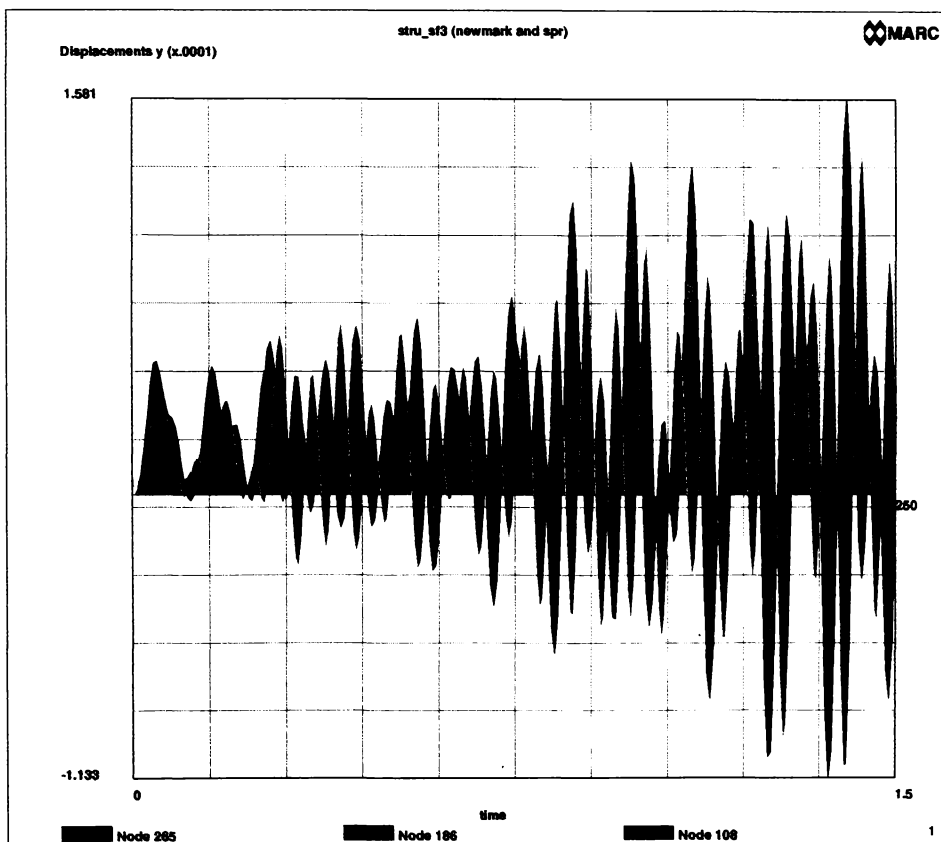


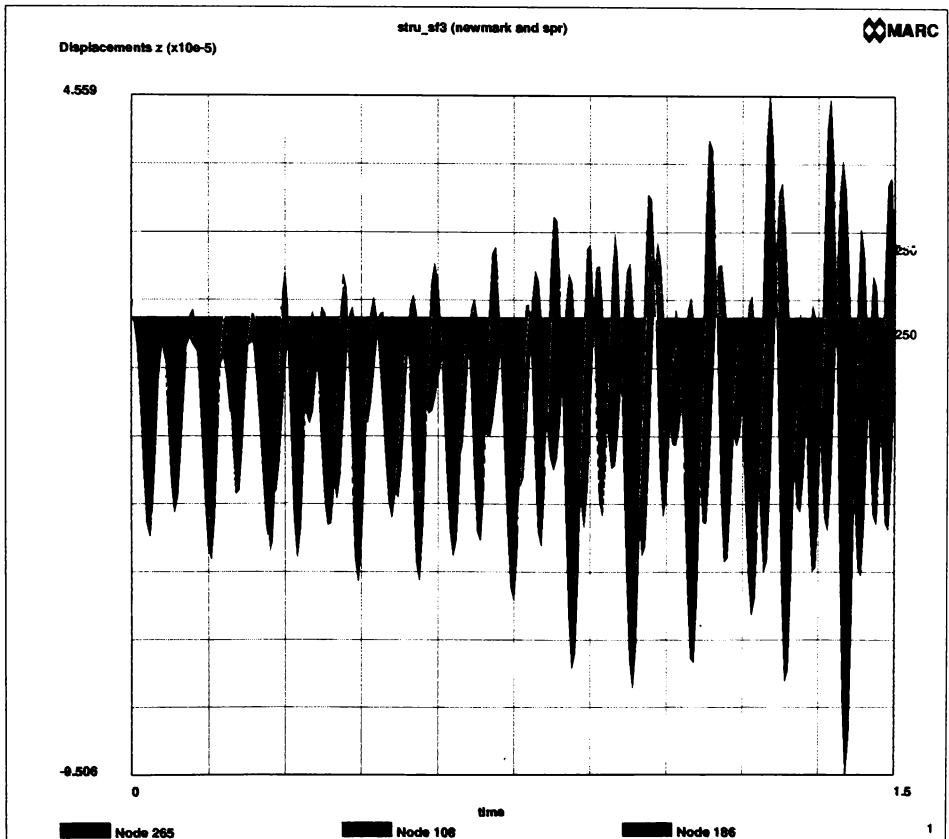


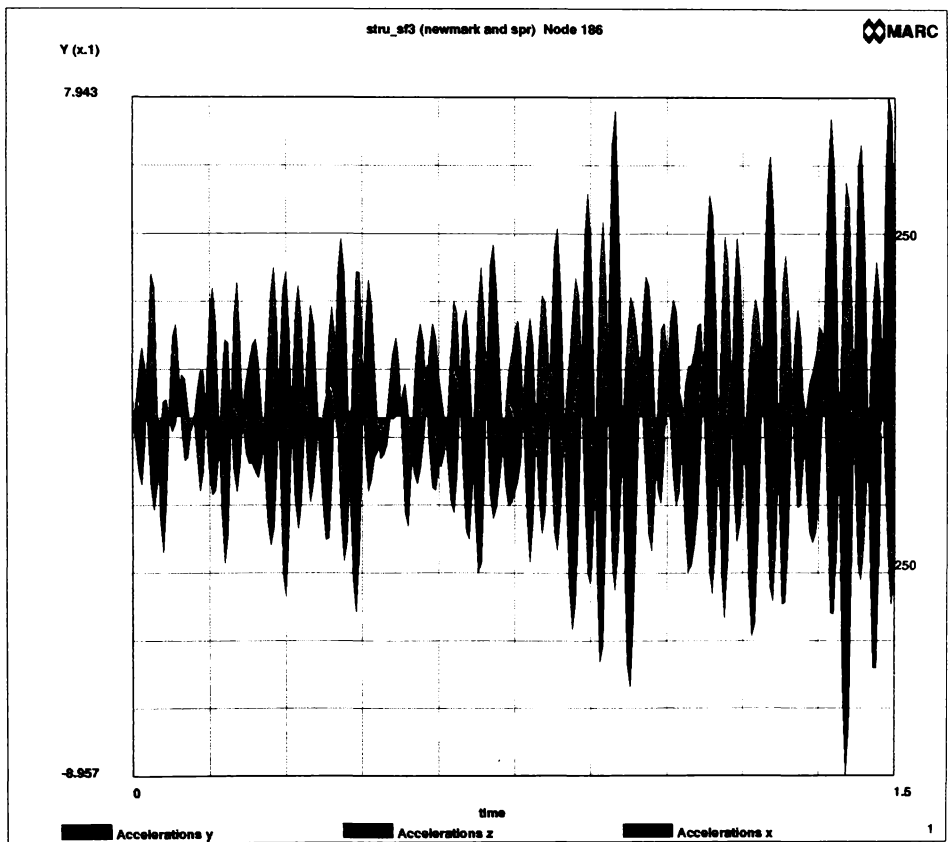


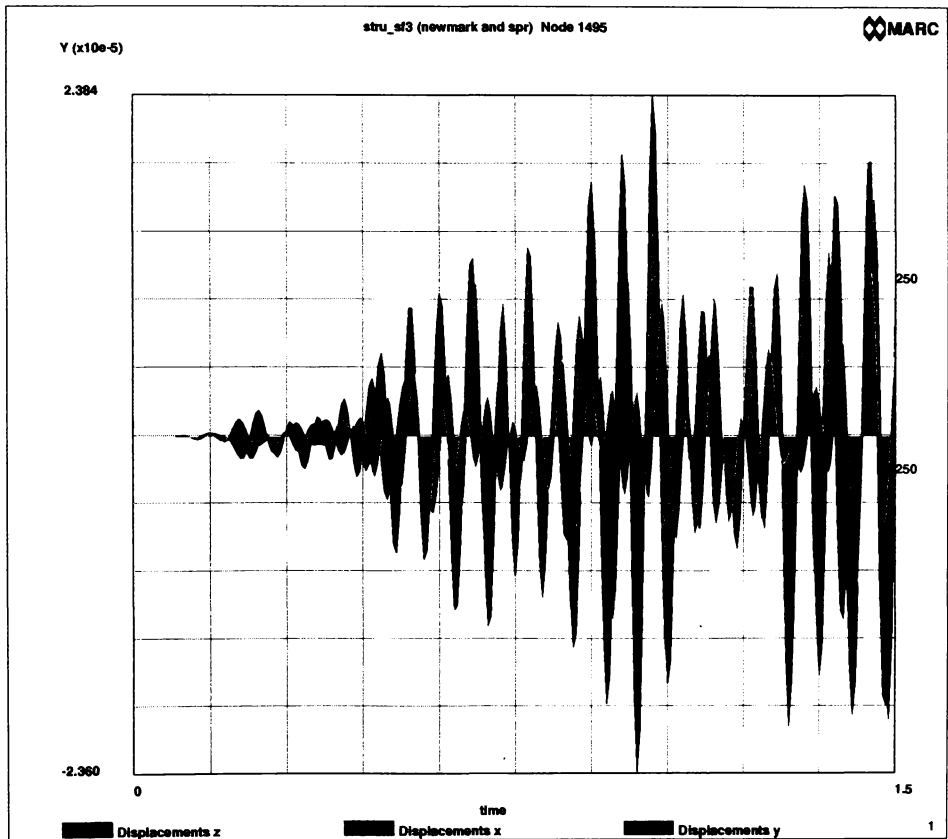


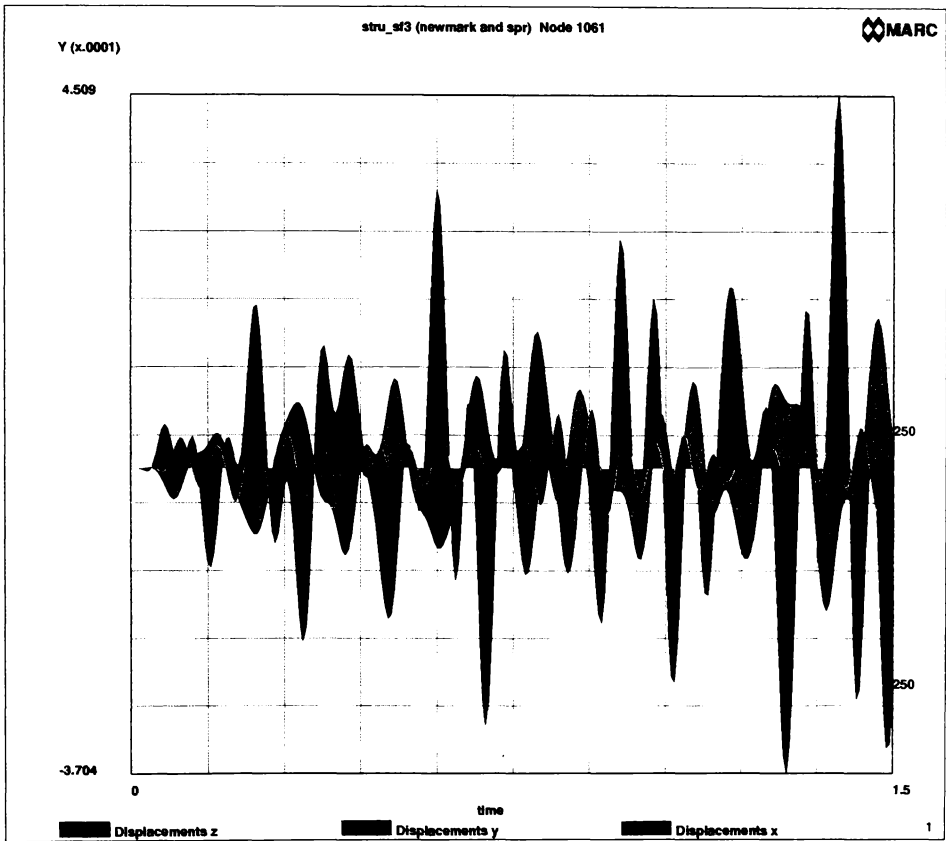


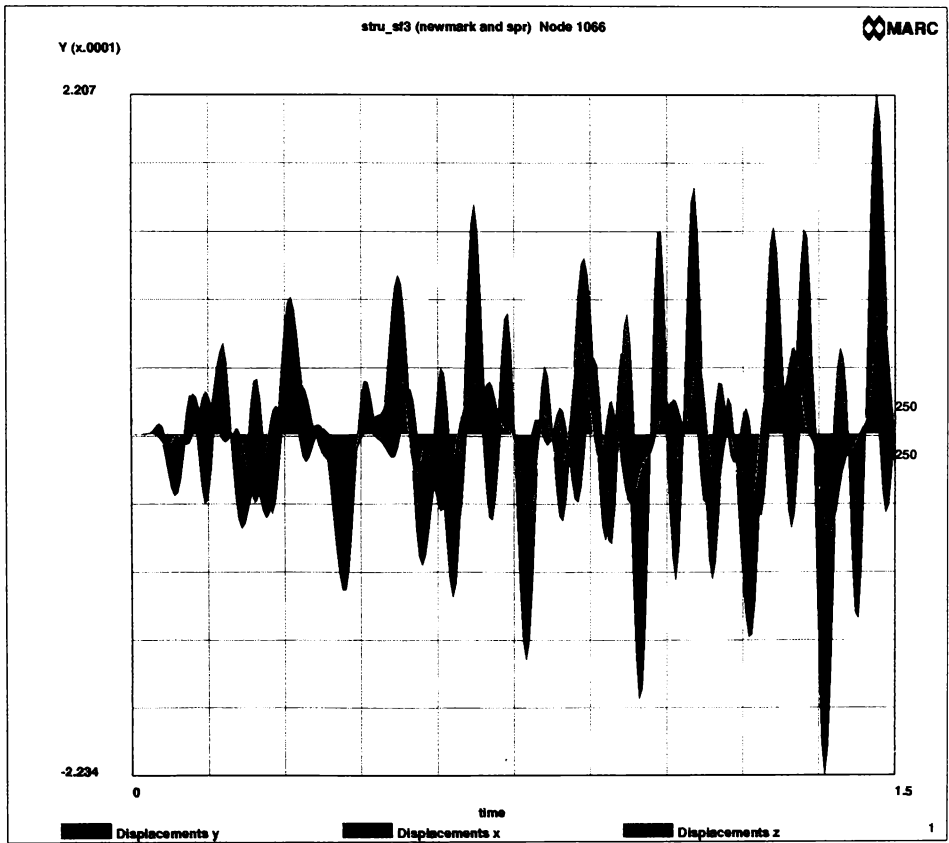


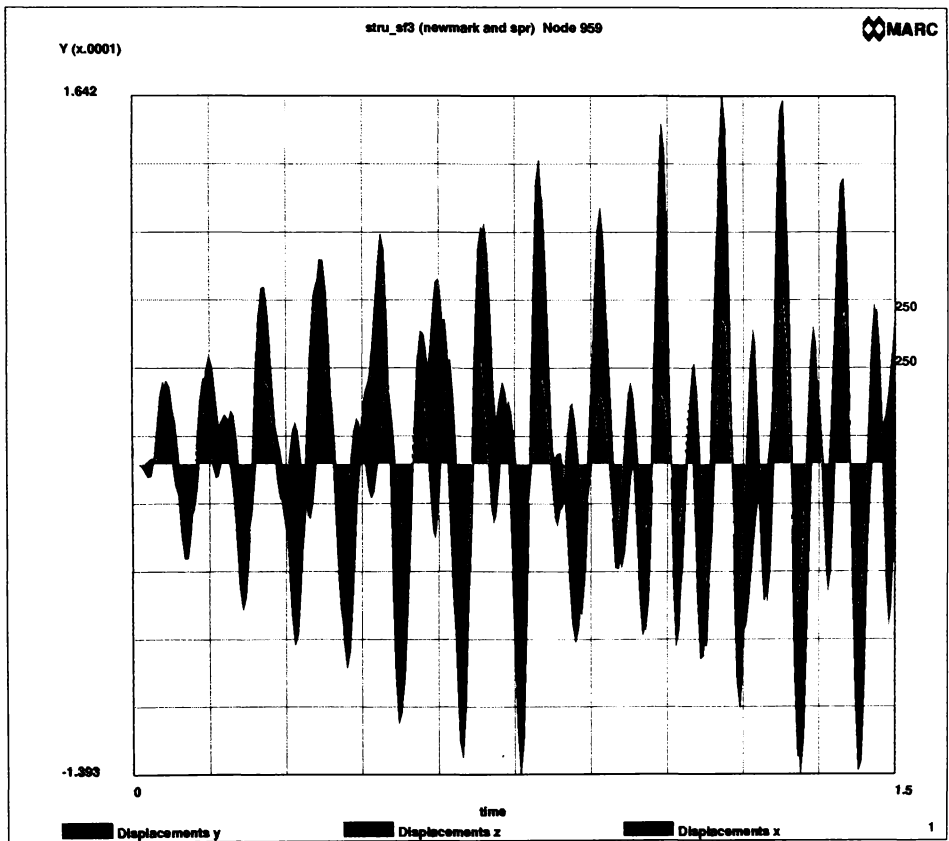


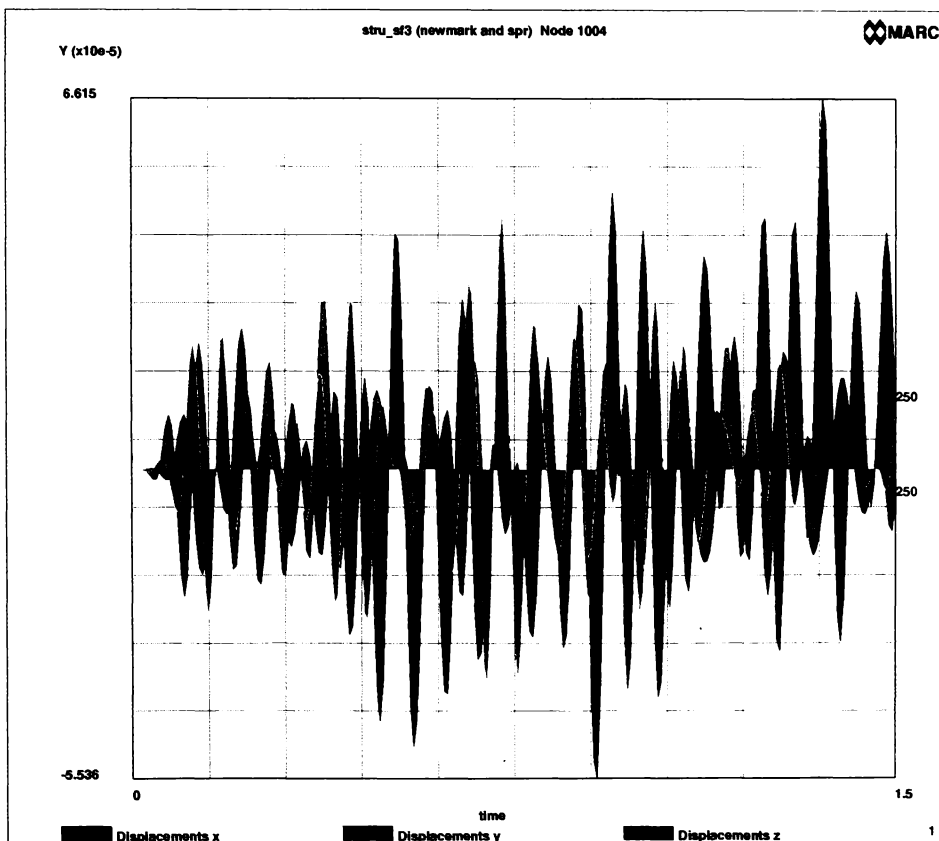




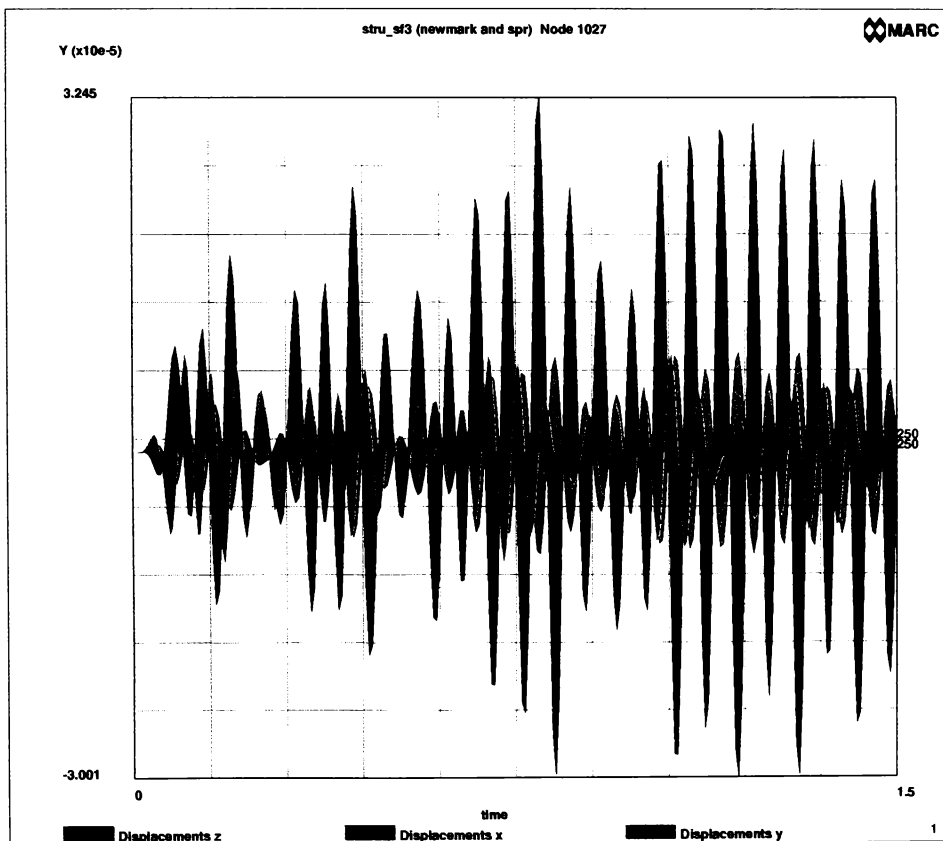


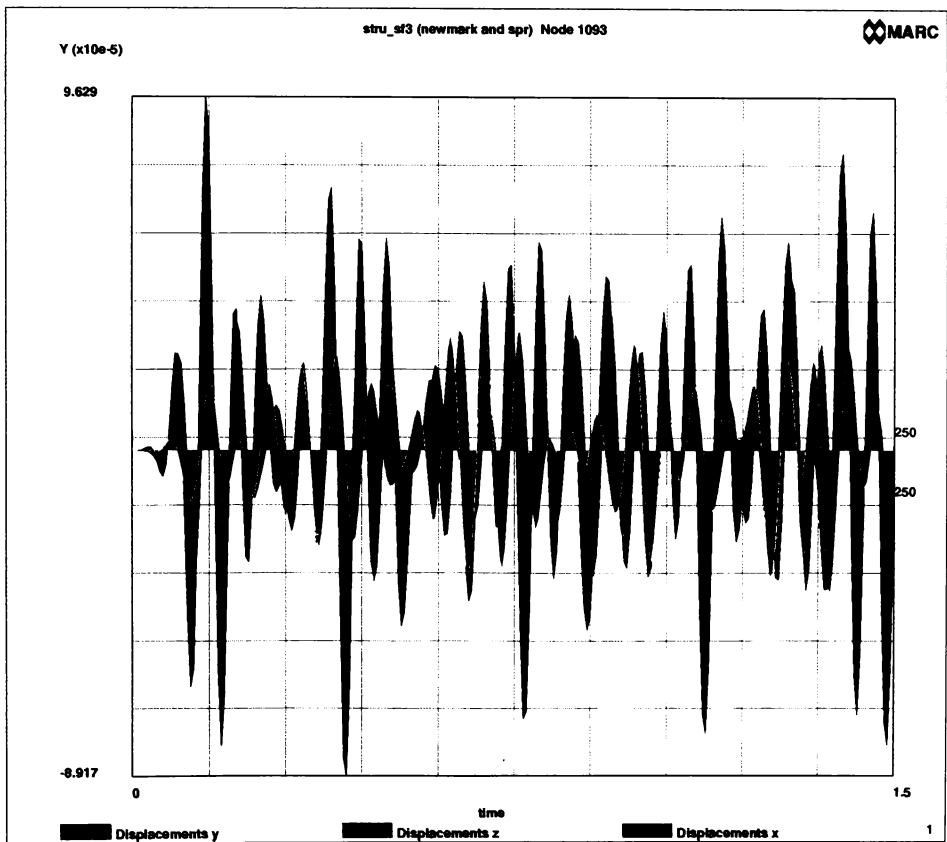


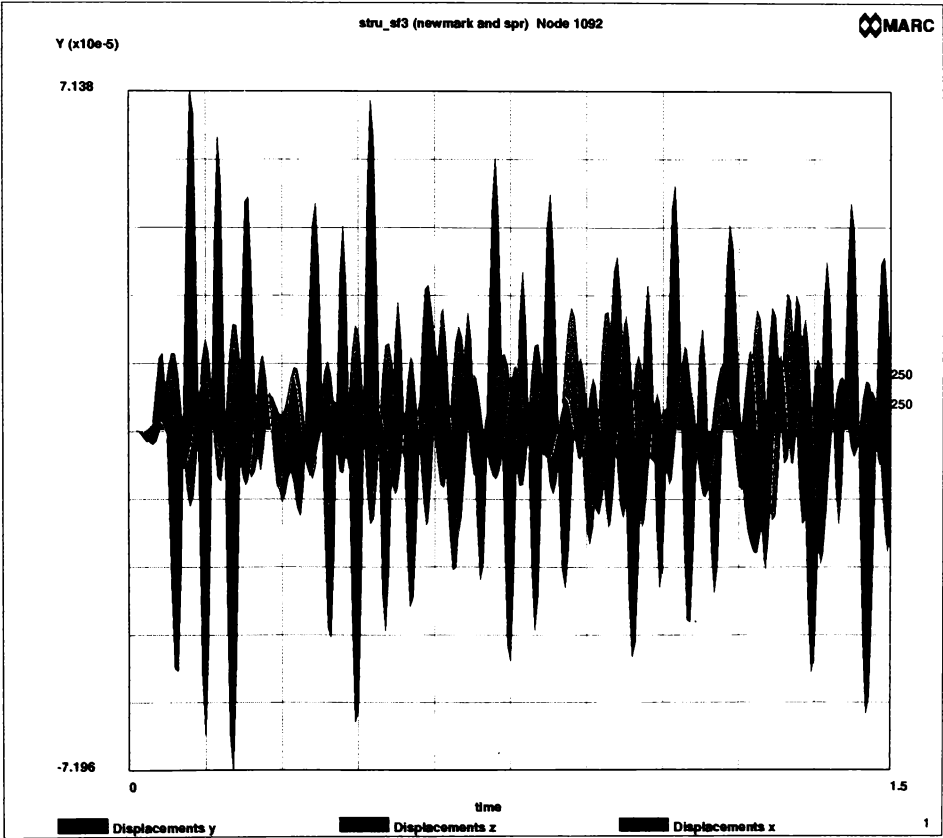


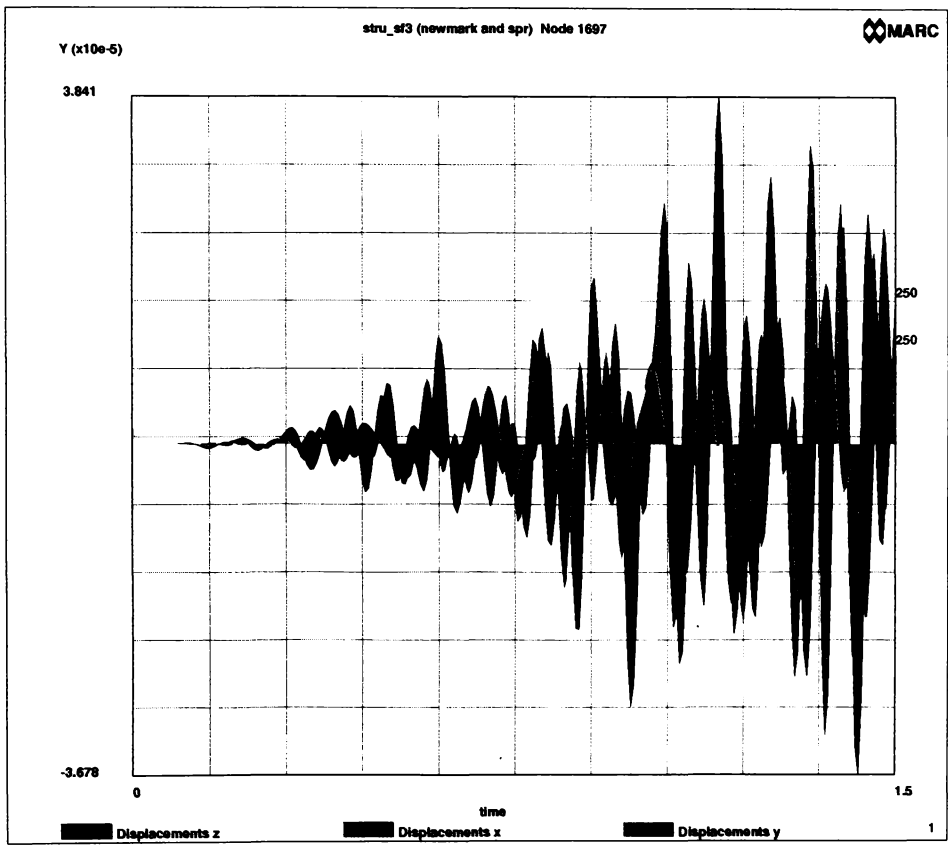


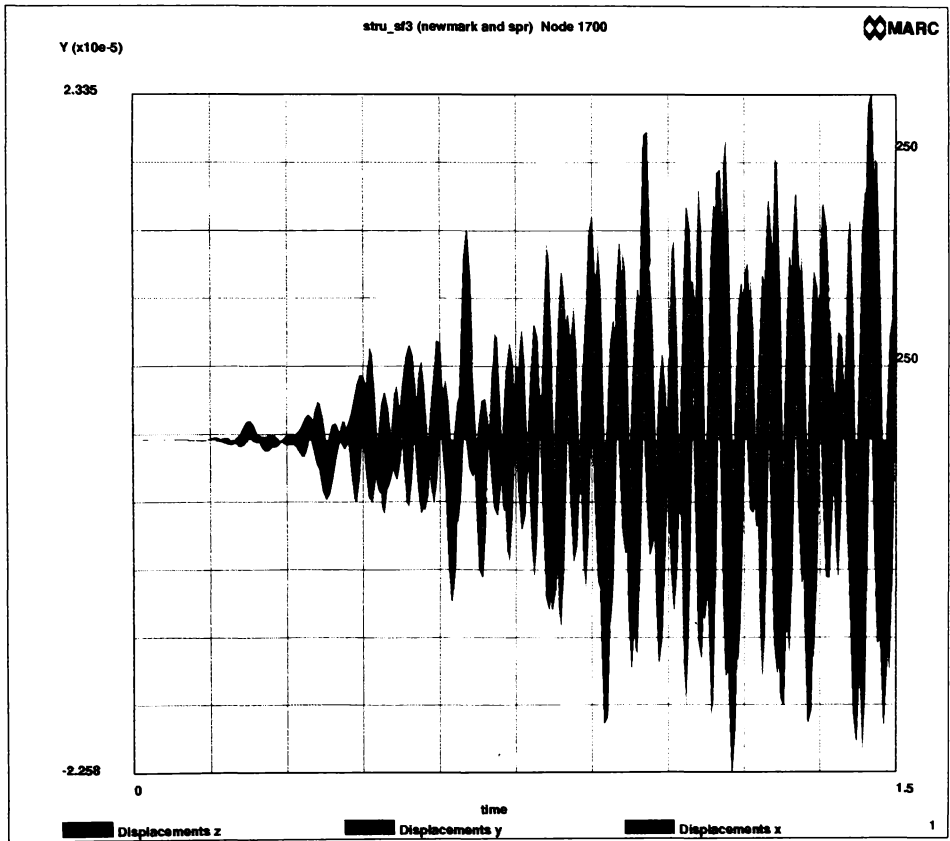












**CALCULUL VIBRATIILOR FORTATE pentru:**

$$n=1200 \text{ rpm}$$

$$t=1.5 \text{ s} ; \Delta t =0.005 \text{ ms}$$

$$p_{\text{nod}} = \bar{p}_{\text{o,nod}} + p_{\text{o}} \cos \omega t$$

$$p_{\text{o}} = 0.2 \bar{p}_{\text{o,nod}}$$

**amortizare structurala si prin  
suruburi fundatie**

