NDAS2D 算例 eeev2

附加阻尼器的单层框架结构如图 1 示，长度单位为英寸、力单位为磅力、质量单位为磅。假定框架本身没有阻尼，阻尼器的阻尼值为，阻尼器的刚度与框架侧移刚度相比可忽略不计。将原框架结构与附加阻尼器的框架同时计算，输入数据如下，NDAS2D 数据检查后显示的结构简图如图 2 示。国际单位制的数据及结果见参考文献。

```
eeev2=e2100e2 no load DAMK=1
8,2
COOR
1,0,0,2
3,0,144,0
2,240,0,2
4,240,144,0
5,480,0,2
7,480,144,0
6,720,0,2
8,720,144,0
0/
0/
NQDP
1,333,1
3,111,1
5,333,1
7,111,1
8,111,0
0/
0/
MAST
0/
SORT
1
MASS
3,4,1,0.17096,0,0
7,8,1,0.17096,0,0
0/
EIGE
6,0.0001
ELEM
2
1,29000,1E-5,20.00,800.6,4,4,2,0,0,0
2,29000,1E-5,10.00,339.2,4,4,2,0,0,0
0/
0/
1,1,1E9,-1E9,0,0,0,0,0,0
2,1,3628.8,-3628.8,0,0,0,0,0,0
3,2,1962,-1962,360,360,1,0.15,1,0.15
0/
0/
1,3,4,0,1,0,2,2,0,1,0,0
2,1,3,0,2,0,3,3,1,1,0,0
3,2,4,0,2,0,3,3,1,1,0,0
4,7,8,0,1,0,1,1,0,1,0,0
5,5,7,0,2,0,1,1,1,1,0,0
6,6,8,0,2,0,1,1,1,1,0,0
0/
1
1,280,0.005,1,1e29,1e-29,0
0/
1,5,8,0,1,0,1,0
```

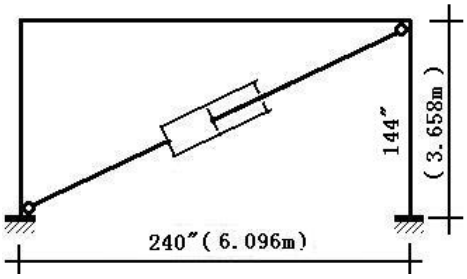


图 1　结构及构件布置

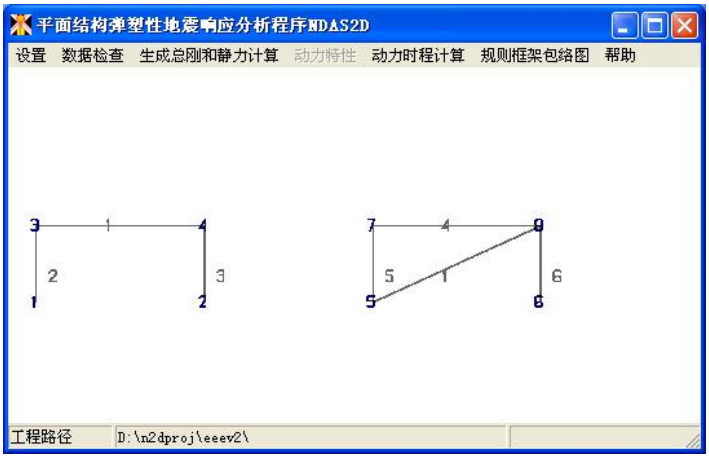


图 2　NDAS2D 显示结构及构件布置

```
0/
DAMP
0,0,0
DAMK
2
2
1,1,1
0/
0/
MAXX
100
DPRX
3,7,4
0/
PLOT
3,1
PENV
700
EQRA
1,700,700,0.01,576,0,0
EATX
126
0.0,0.0108,0.042,0.0010,0.097,.0159,0.161,-.0001, .221,0.0189,0.263,0.0001
```

地震波数据与算例一同，略

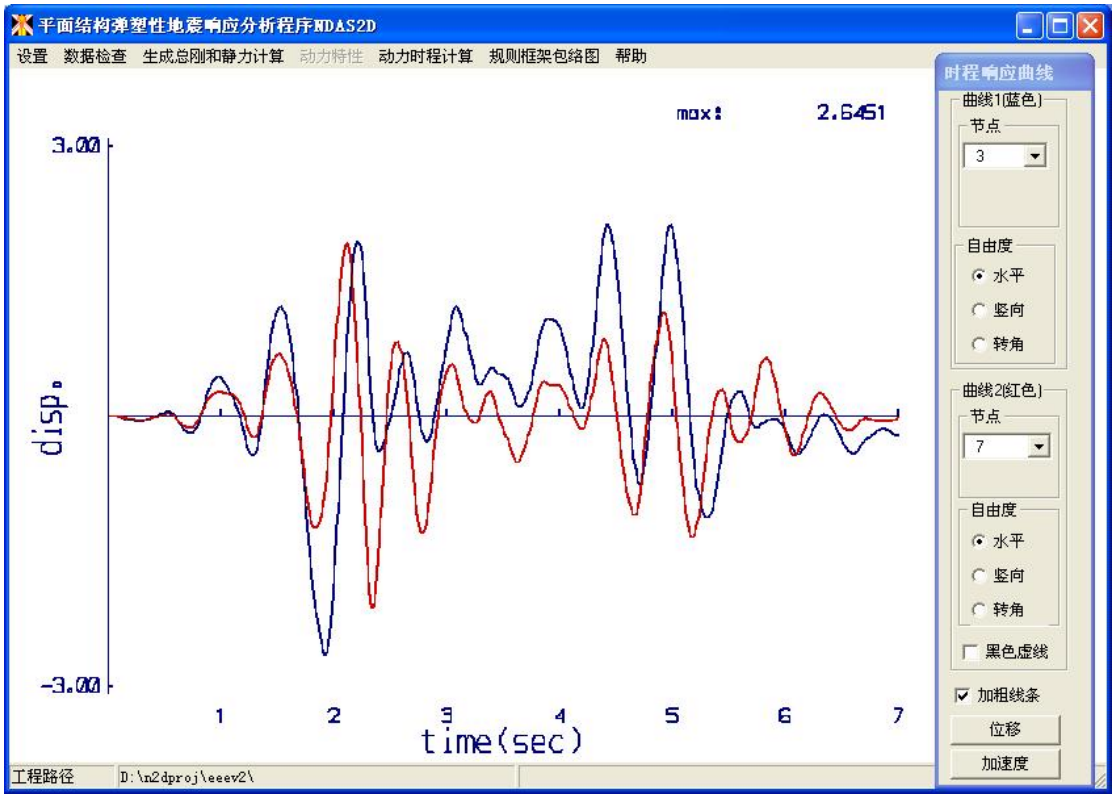


图 3　NDAS2D 显示的原框架结构与附加阻尼器的框架水平位移响应曲线

由图 3 比较可见，NDAS2D 软件计算结果附加阻尼器的框架几乎处于弹性状态。

参考文献

王依群、李忠献：“不同阻尼特性材料组合结构的弹塑性动力时程响应计算”，«地震工程与工程振动»第 19 卷 2 期，76-80 页，1999 年