

# Report for STAPpp in FEM

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## 1 Problem Description

算一座桥，自由度从几千到几百万不等。

## 2 Framework of STAPpp

### 2.1 Preprocessing

### 2.2 Formation and assembly

### 2.3 Solver

### 2.4 Postprocessing

## 3 Basic elements

Note. In this section, the elements used in the bridge test are introduced.

### 3.1 Bar

略\*3 [\[1\]](#)

### **3.2 8H**

### **3.3 Euler-Bernoulli Beam**

### **3.4 Flat Shell**

## **4 Other elements**

### **4.1 3T**

### **4.2 4Q**

### **4.3 Timoshenko Beam**

### **4.4 Kirchhoff-Love Plate**

### **4.5 Mindlin-Reissner Plate**

### **4.6 (Some shell)**

## **5 Advanced features**

### **5.1 Sparse solver**

### **5.2 Modal analysis**

### **5.3 SPR for 8H**

### **5.4 Infinite elements**

## **6 Acknowledgement**

Thank the other teams for their enhancing our confidence. ( $\overline{\mathbf{T}}^*$ )

**A Input file format**

**B PostOutput file format**

**C Strategies for optimization**

**D Assignment**

## **References**

- [1] 张雄等. 计算动力学 (第二版). 北京: 清华大学出版社, XXXX.