

# Static Deflection of Advanced LIGO SUS ETM Structure

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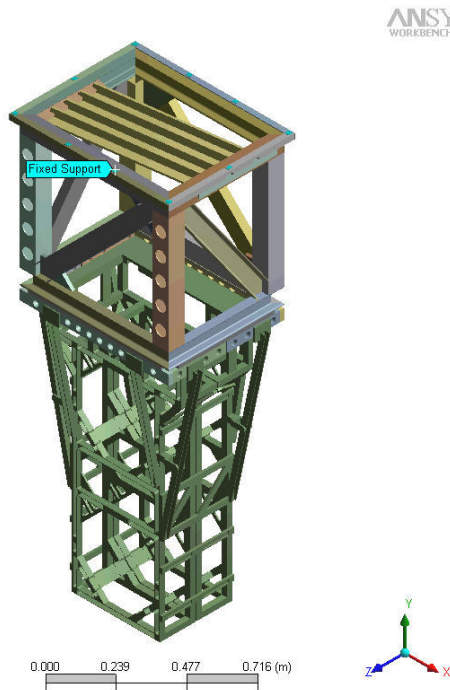


Fig 1. Combined structure, note the absence of the tablecloth

## Mass distribution through structure

Total Mass 82Kg

Lower structure mass 34.5 Kg

Upper structure mass 38 Kg

Implementation ring mass 9.7 Kg

Table 1. First six modes of the combined ETM structure

Mode	Frequency Hz
1st	77
2nd	86
3rd	126
4th	180
5th	188
6th	228

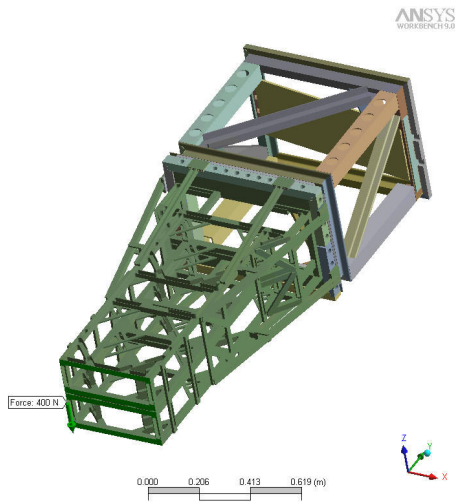


Fig 2. Longitudinal force acting on end of structure 400N

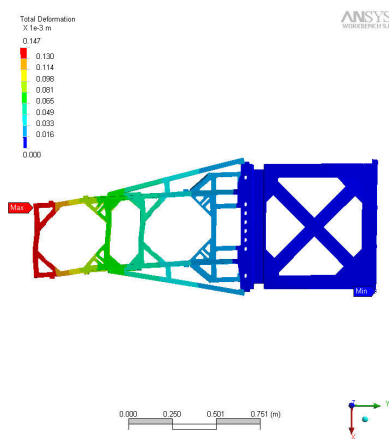


Fig 3. Traverse force 400N, maximum displacement 0.147mm

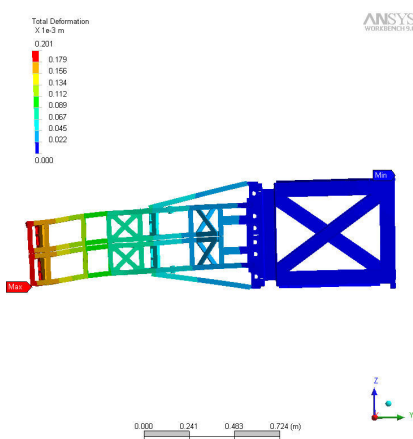


Fig 4. Longitudinal force 400N, Maximum displacement 0.201mm

**Modal masses**

To get modal masses from ANSYS workbench, right click on solution, insert, solution information.