

Team5: Initial CAD and FEM

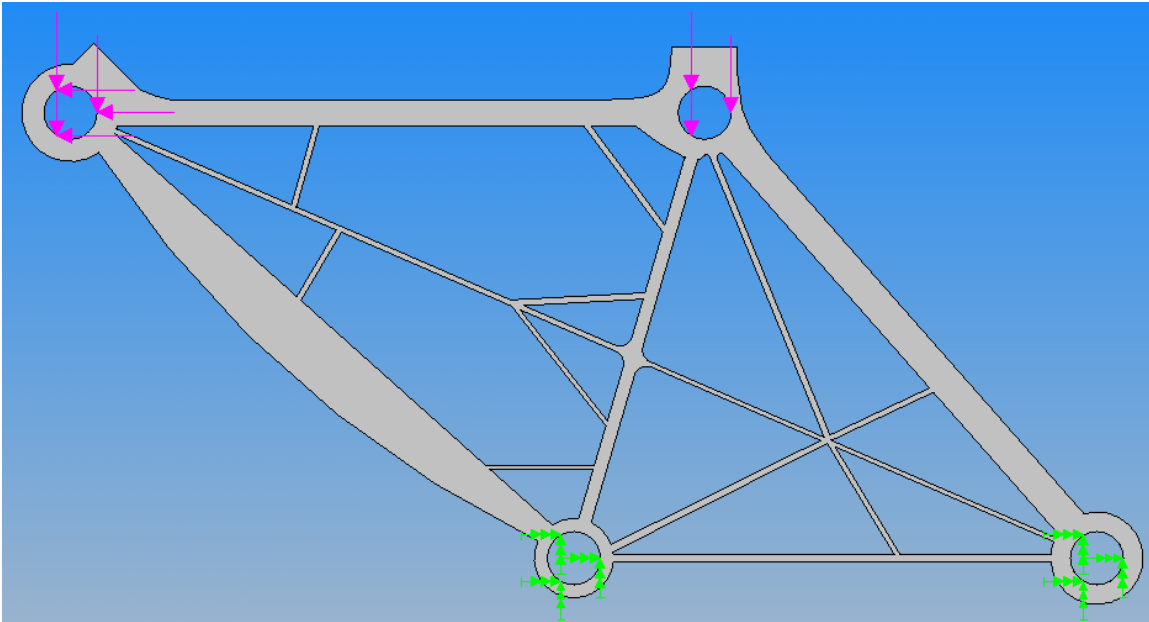


Figure 1: CAD Model showing web/truss type structure for max stiffness and minimum weight

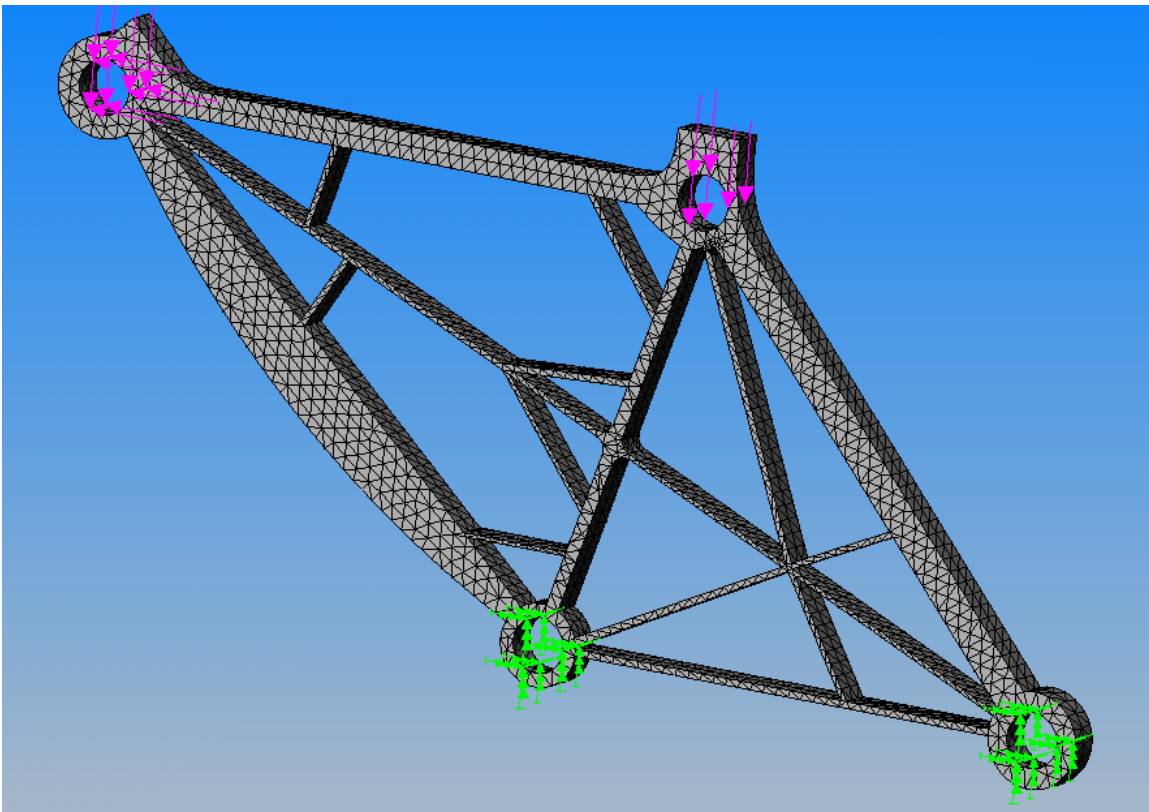


Figure 2: Solid Mesh of Model showing applied loads and boundary conditions

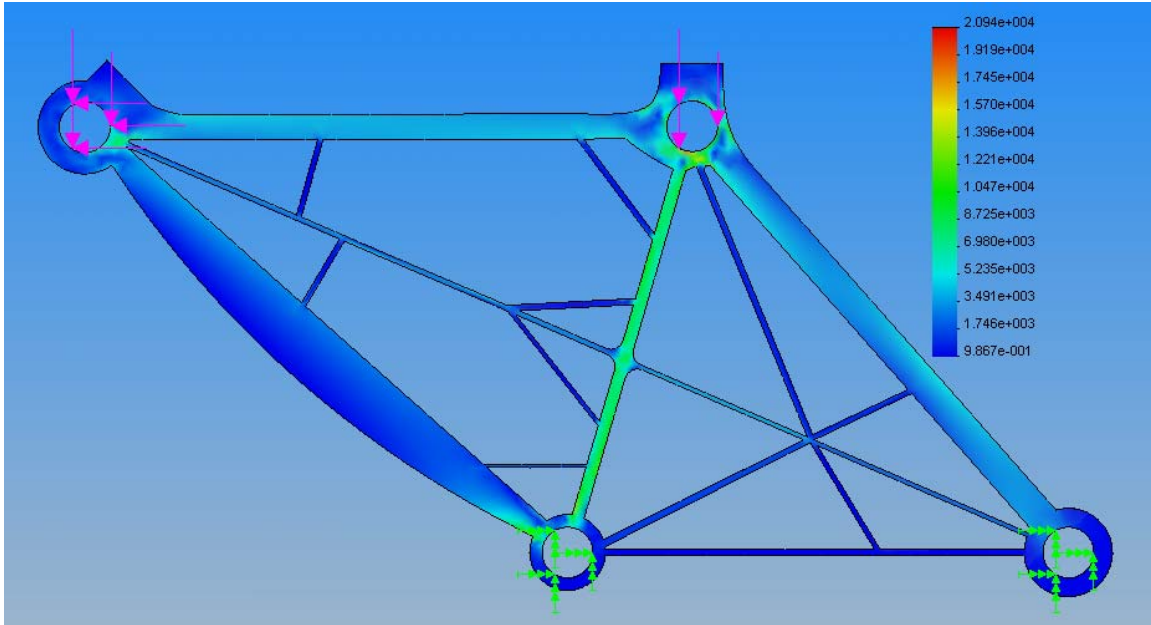


Figure 3: Von Mises Stress plot

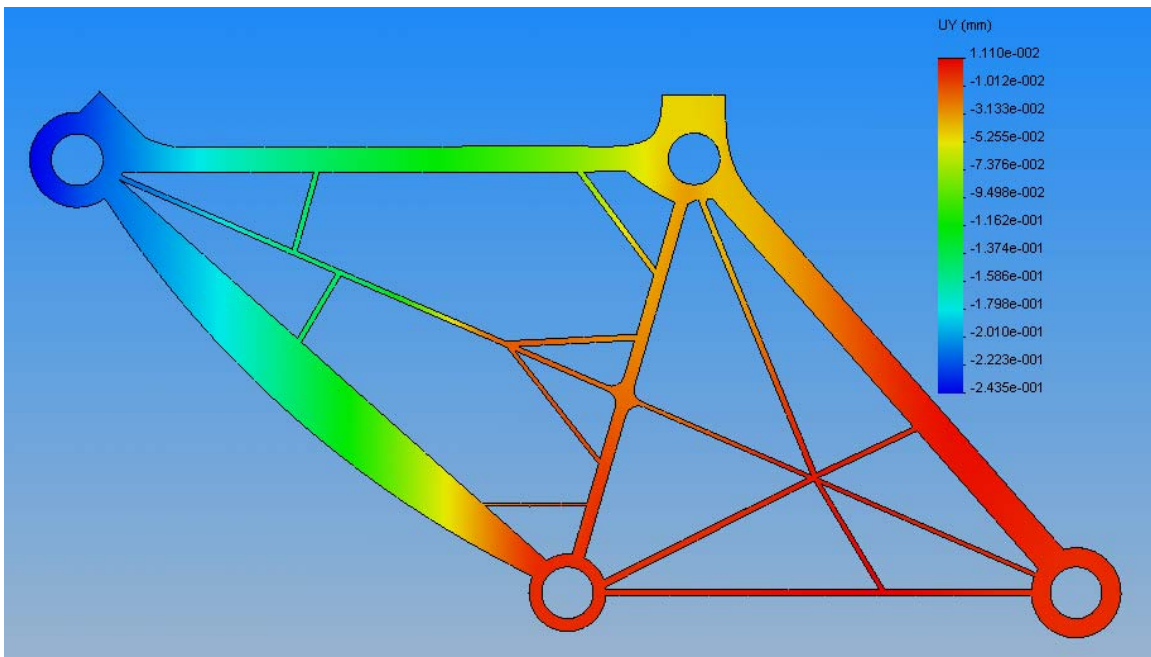


Figure 4: Displacement in the Y direction in mm

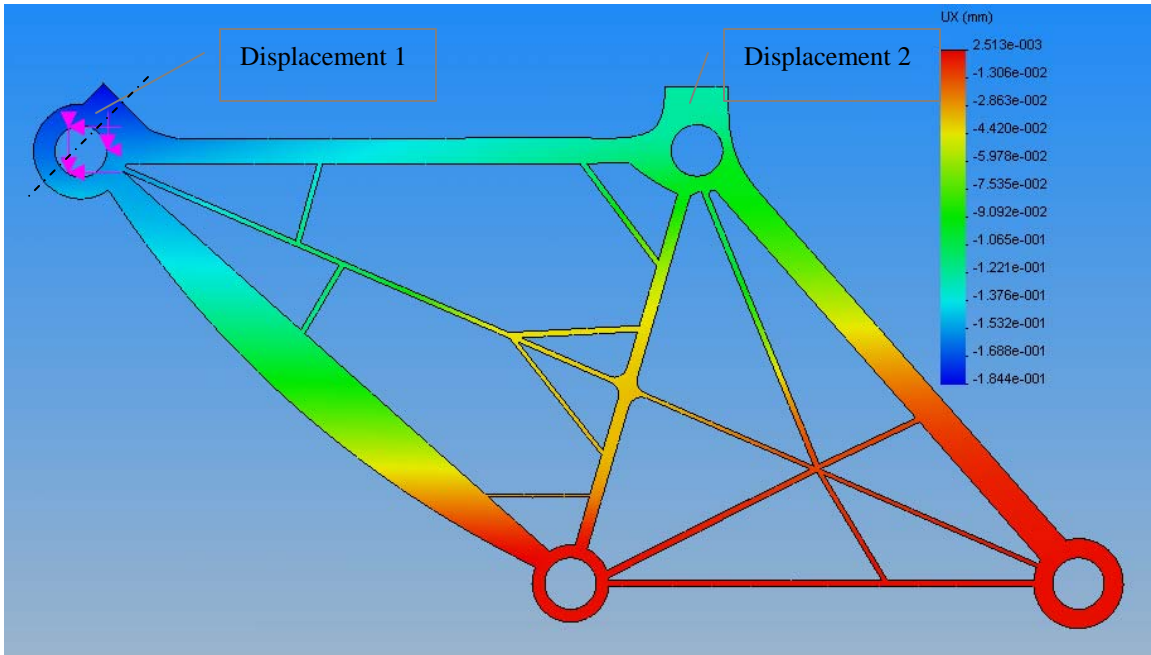


Figure 5: Displacement in the X direction in mm

Displacement 1
 Displacement 2
 Nat freq
 Mass

	Displacement 1	Displacement 2	Mass	Natural Freq
Requirement	0.071	0.011	1.6lbs	295.0 Hertz
Actual	0.303	0.0455	1.4lbs	231.7 Hertz
% Off	426%	383%	87.5%	127%

Table1: Results to date on meeting Design Constraints

Conclusion:

Got some changes to make.

Team 5