

Intermediate Report

KAKADE Ishaan

nely = nelx = 50

```
%% MMA code optimization
[x(:), ymma, zmma, lam, xsi, eta, mu, zet, S, low, upp] = ...
    mmasub(m, n, outeriter, xval, xmin, xmax, xold1, xold2, ...
        f0val, df0dx, fval, dfdx, low, upp, a0, a, C, d);
last = x(nely, :); %Option 1: Reduction of A and I based on the
                    %density of the DZ at the interface.

A = max(last)*A;
I = max(last)*I; %Option 2: Direct Integration
xold2 = xold1;
xold1 = xval;
xval = x(:);
change = norm(xval-xold1);
```

Figure 1: Snippet of the modified code

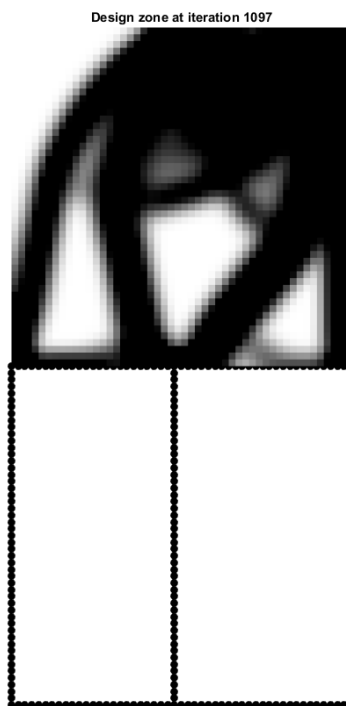


Figure 2: Design zone with area and inertial optimization

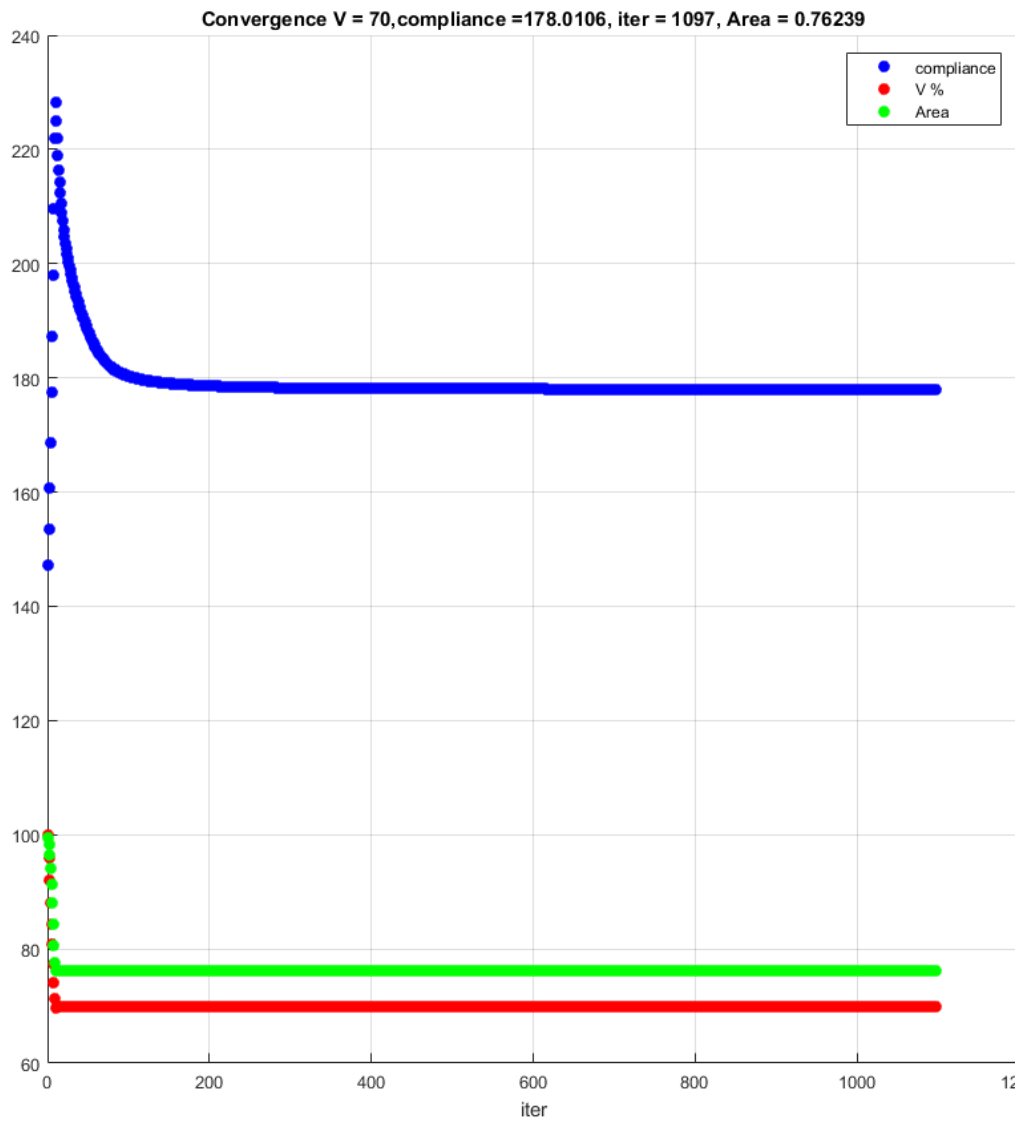


Figure 3: Output graph with area and inertial optimization

Design zone at iteration 1500

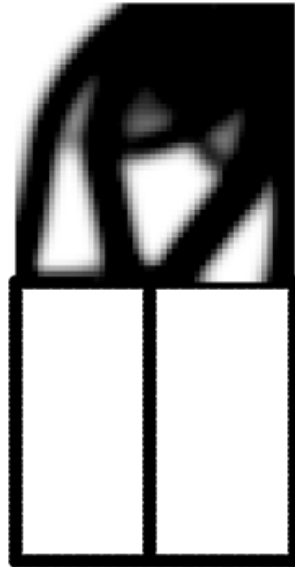


Figure 4: Design zone without stiffness matrix optimization

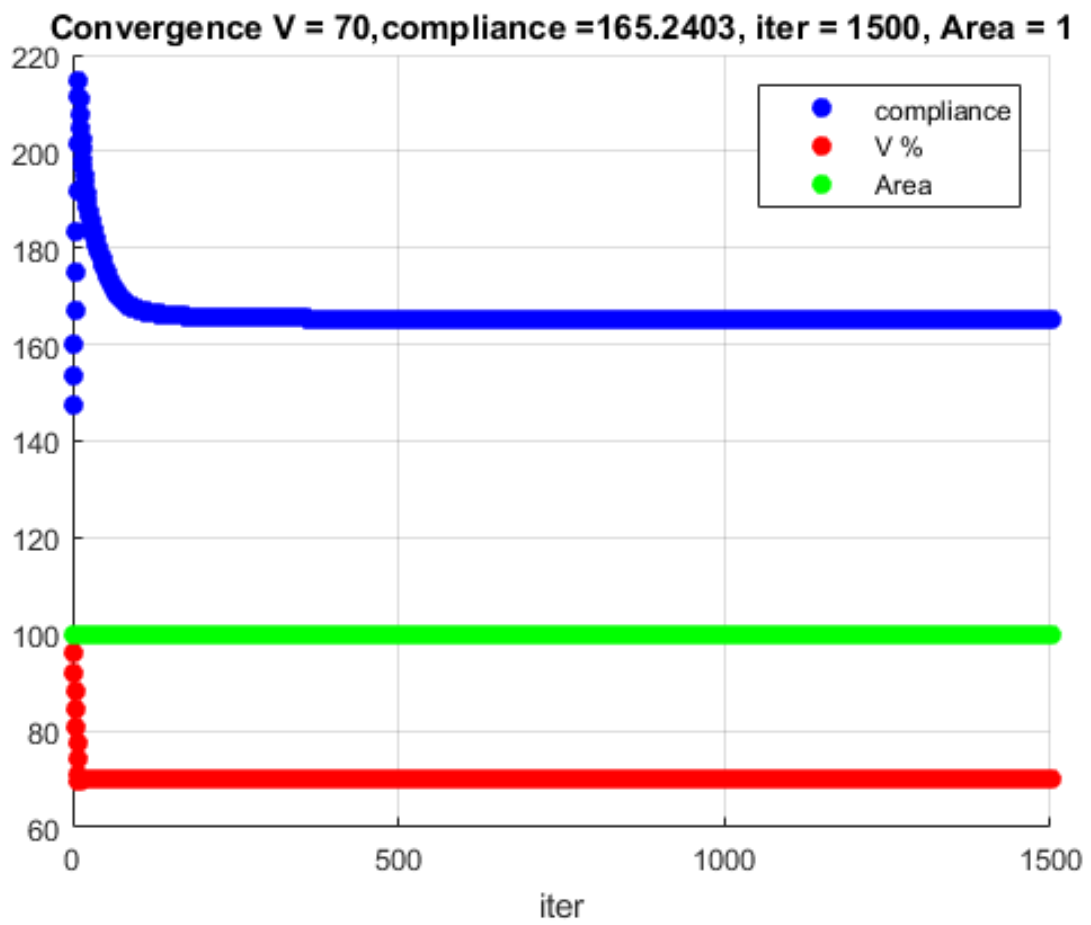


Figure 5: Output graph without area and inertial optimization