

### Rocket Configuration

'h0': 76.25,  
'v0': 70.25,  
'mass': 0.595,  
'Cd': 0.65,  
'Rho\_0' = 1.06,  
'A\_base': 0.00452369,  
'A\_max': 0.00524229  
target\_apogee = 228.6

### Optimal PID Gains:

**Kp = 0.182037**

**Ki = 0.013259**

**Kd = -0.018519**

Final error: 0.558m

Converged: True

Iterations: 18

Final apogee: 229.28m

Error from target: **+0.68m**