Velocity Prediction Code:

Code should create array of distance and predicted velocity to move from a start position to an end position. Velocity to be limited to capability of hardware and accelerations restricted to fixed acceleration and deceleration rates.

Inputs:

S\_Start\_mm = 100;

S\_Target\_mm = 200;

V\_max\_mmpers = 16;

V\_creep\_mmpers = 1;

S\_Creep\_mm = 10;

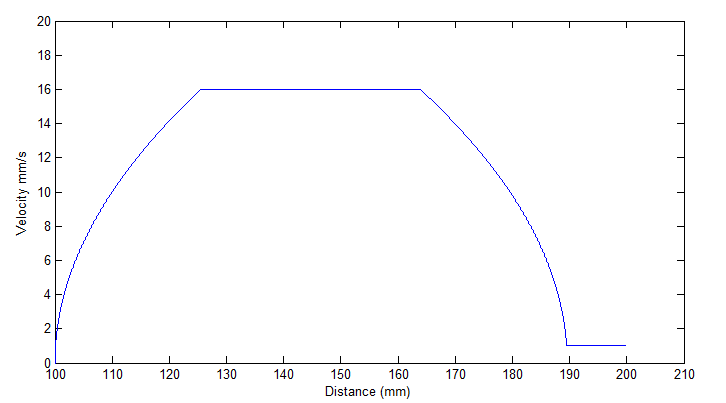
S\_Overrun\_mm = 0.5;

Accel\_mm\_s2 = 5;

Decel\_mm\_s2 = -5;

S\_Resolution = 0.01;

Result:



Inputs

S\_Start\_mm = 100;

S\_Target\_mm = 200;

V\_max\_mmpers = 16;

V\_creep\_mmpers = 1;

S\_Creep\_mm = 10;

S\_Overrun\_mm = 0.5;

Accel\_mm\_s2 = 2.5;

Decel\_mm\_s2 = -0.2;

S\_Resolution = 0.01;

Results:

Due to slow acceleration limits, the manipulator does not reach its maximum speed limit and instead opts to decelerate to reach the target, as intended

