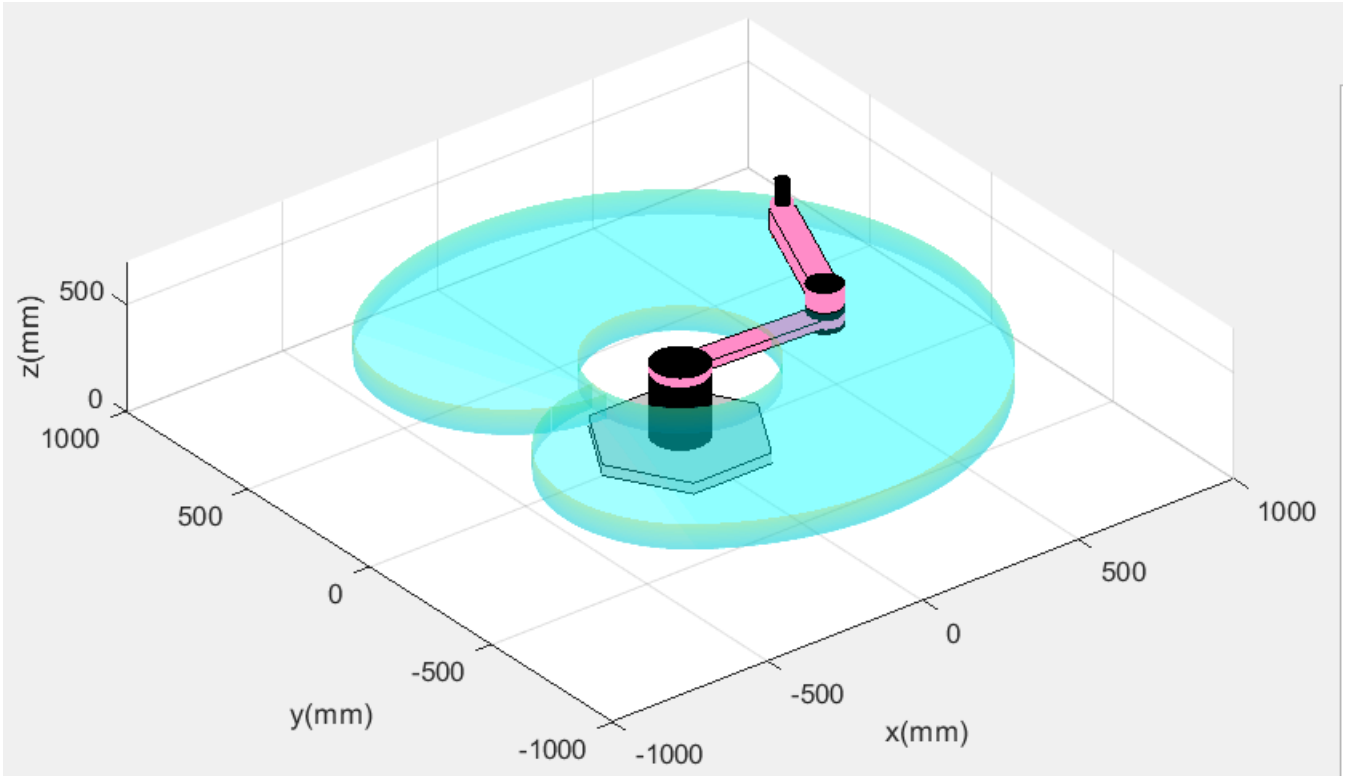


Input_parameter

Theta1 [-125,125] degree		-2.521
Theta2 [-145,145] degree		70.0154
d3 [0,150] mm		0
Theta4 [-360,360] degree		0

End_effector_position (mm)

	Present	Desire
X (mm)	602.674	450
Y (mm)	349.743	-400
Z (mm)	443	350
Yaw (deg)	67.494	50

DH_para(mm)

a1	450
a2	400
d1	363
d2	80

Update

Velocity and acceleration

q_max	v max	a_max
	55	35
mm	mm/s	mm/s^2

PLOT

Trajectory Path: ○ Trapezoidal ○ S_curve

Linear_Interpolation

Kinematics

Forward_Kinematics

Inverse_Kinematics

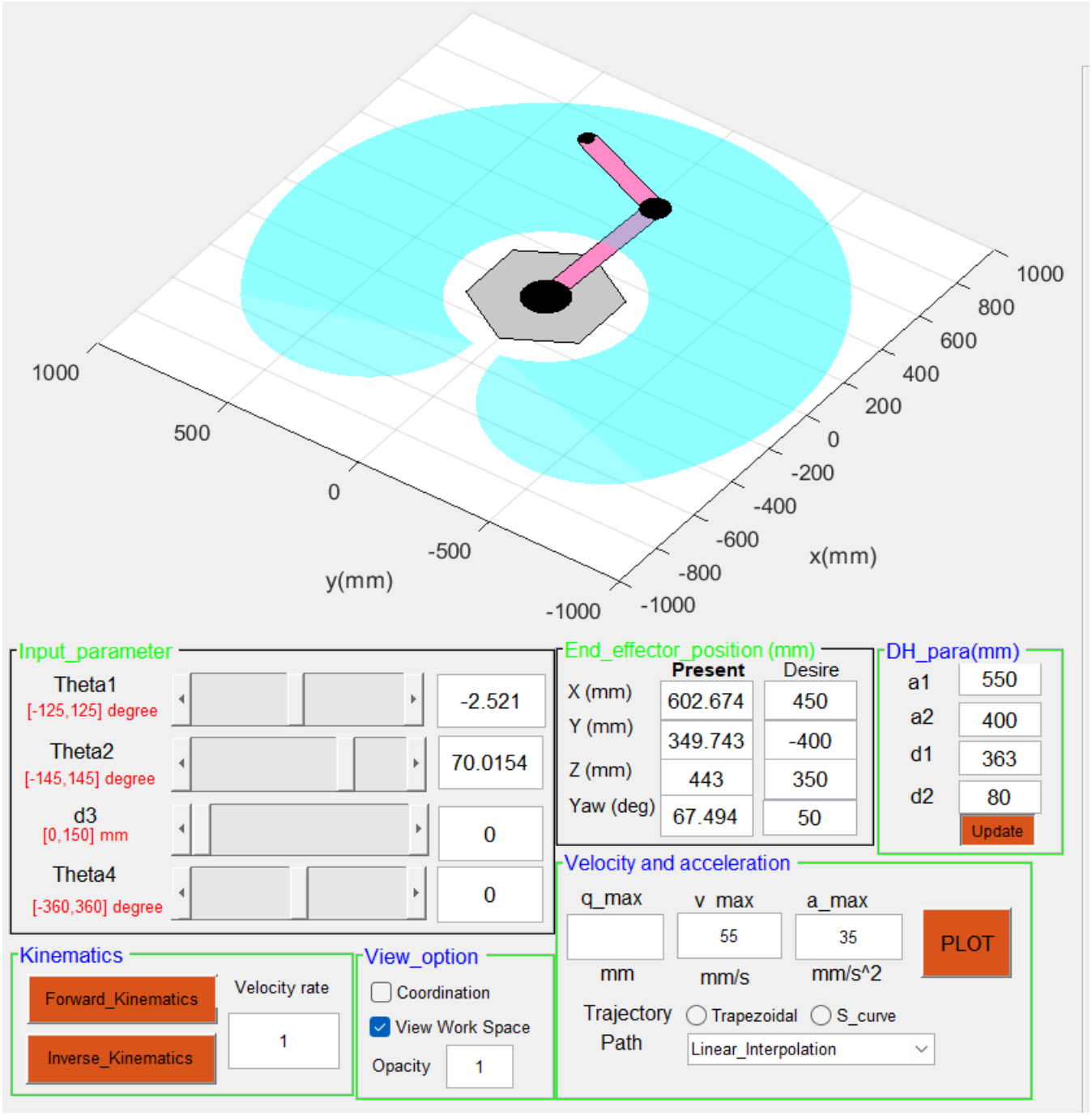
Velocity rate: 1

View_option

☐ Coordination

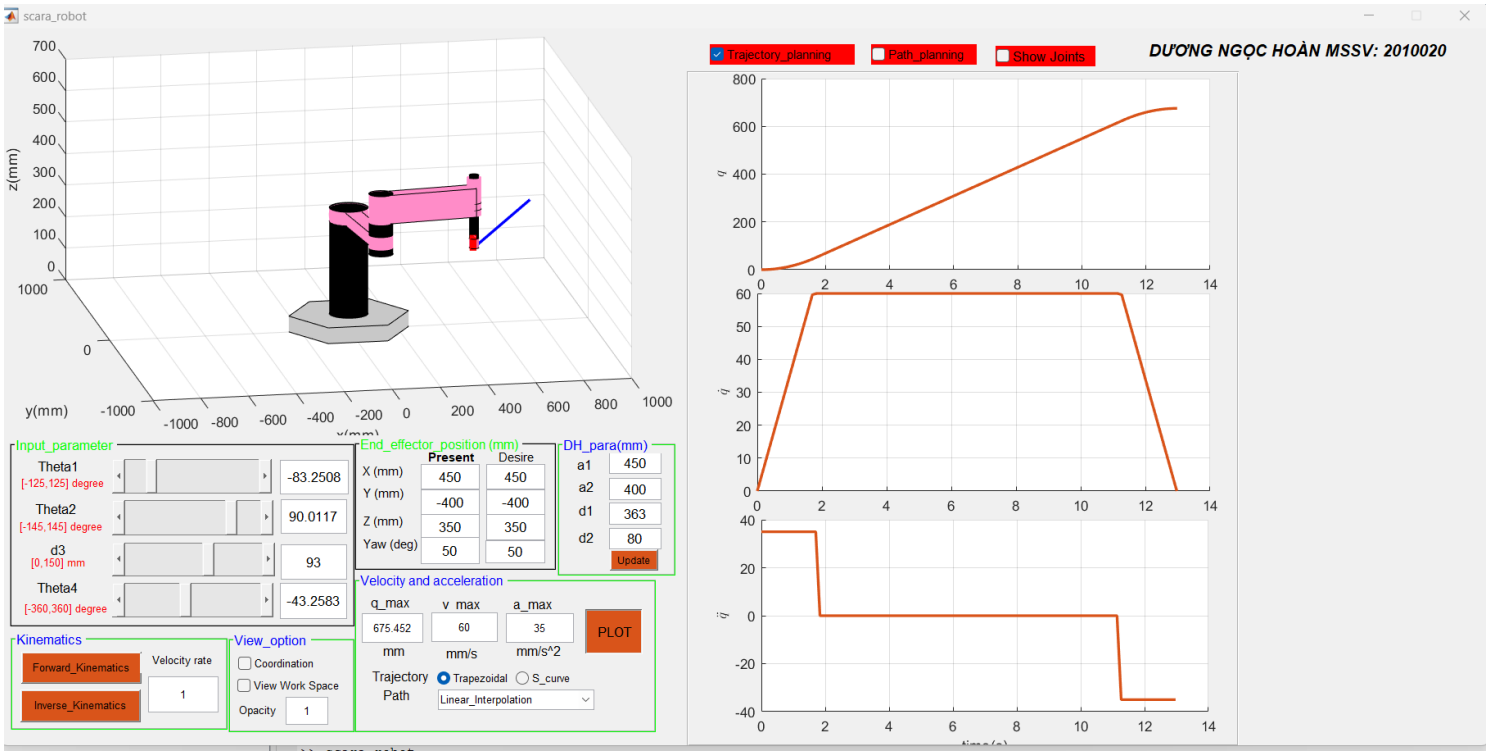
☑ View Work Space

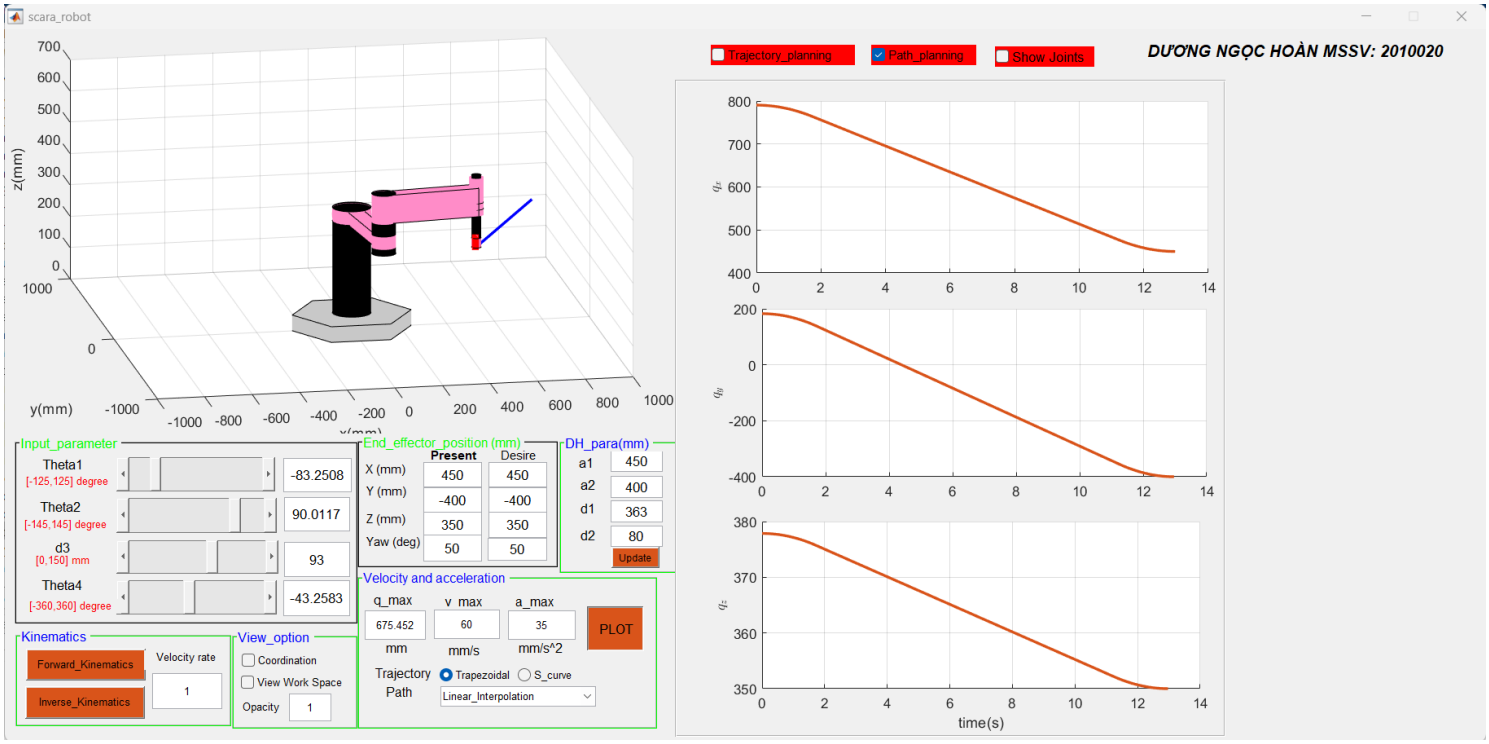
Opacity: 1

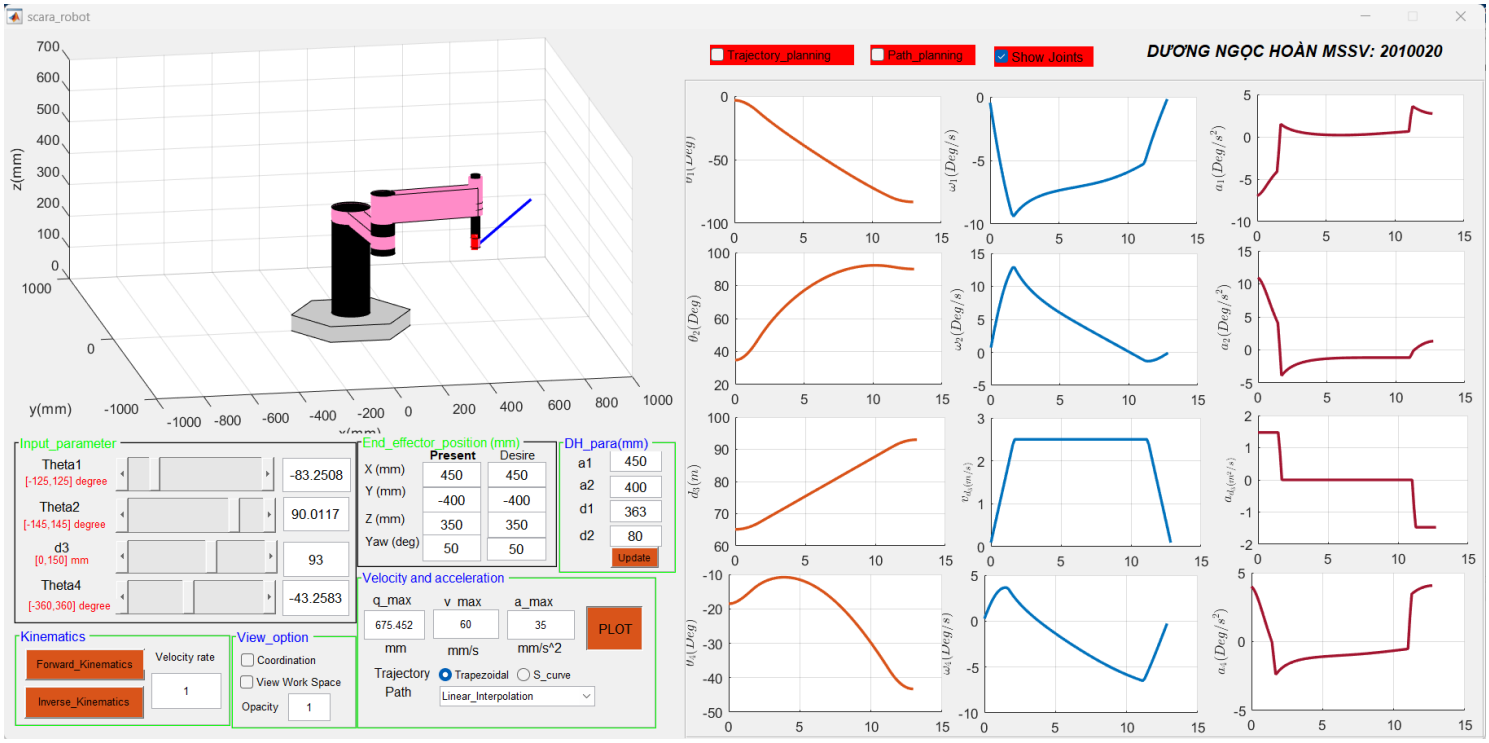

1000
500
0
-500
-1000
y(mm)
1000
800
600
400
200
0
-200
-400
-600
-800
-1000
x(mm)
Input_parameter
Theta1
[-125,125] degree
-2.521
Theta2
[-145,145] degree
70.0154
d3
[0,150] mm
0
Theta4
[-360,360] degree
0
End_effector_position (mm)
Present
Desire
X (mm)
602.674
450
Y (mm)
349.743
-400
Z (mm)
443
350
Yaw (deg)
67.494
50
DH_para(mm)
a1
550
a2
400
d1
363
d2
80
Update
Velocity and acceleration
q_max
v_max
a_max
55
35
mm
mm/s
mm/s^2
PLOT
Trajectory
Path
Trapezoidal
S_curve
Linear_Interpolation
Kinematics
Forward_Kinematics
Inverse_Kinematics
Velocity rate
1
View_option
Coordination
View Work Space
Opacity
1

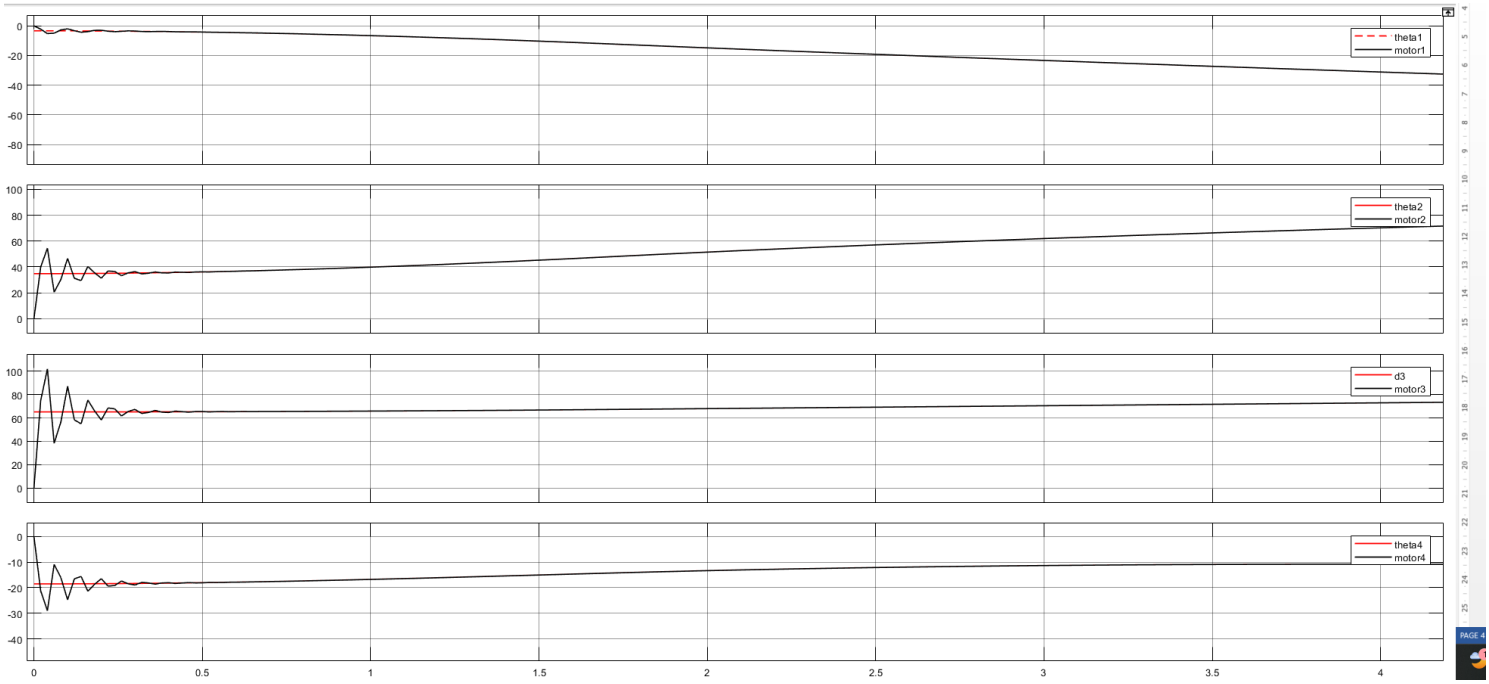
TRAPEZOIDAL TRAJECTORY

LINEAR INTERPOLATION



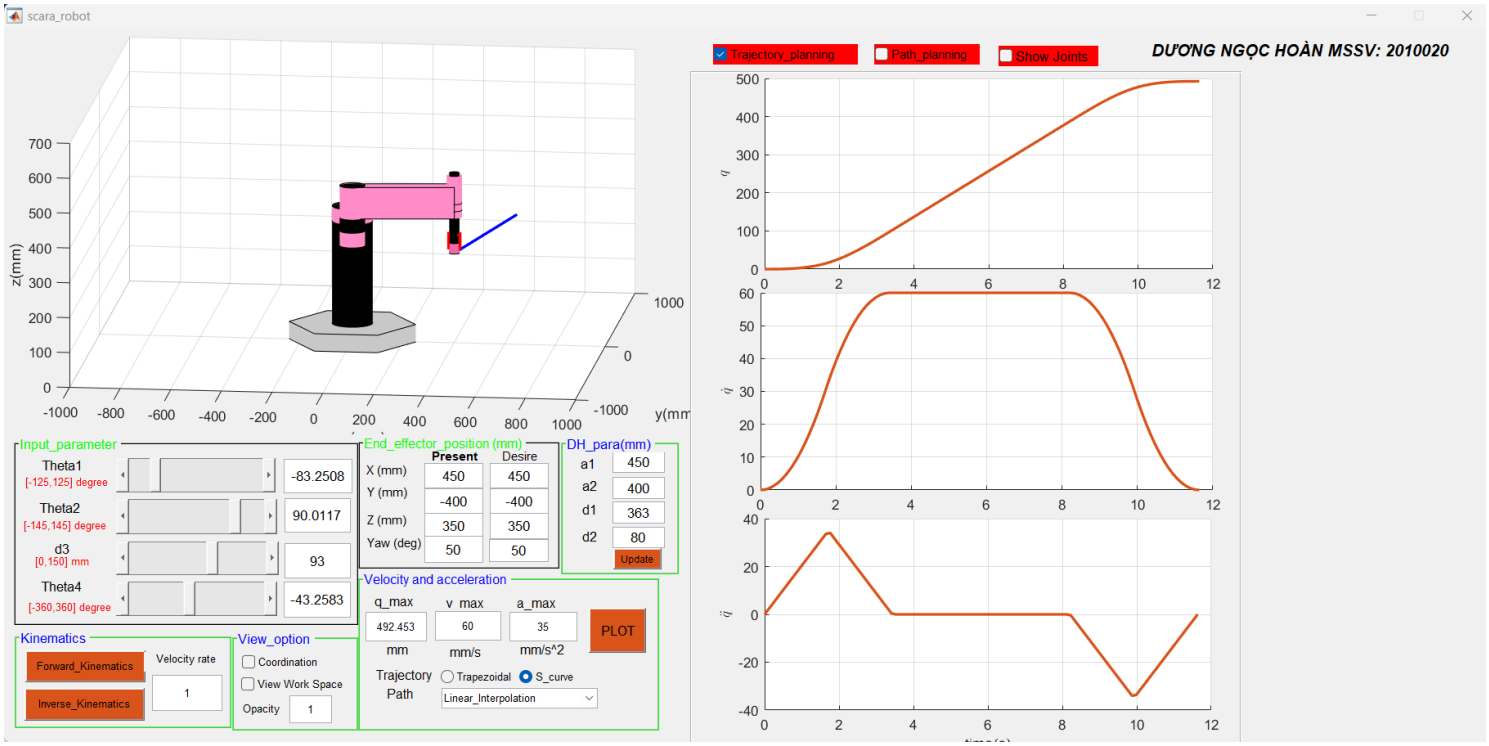


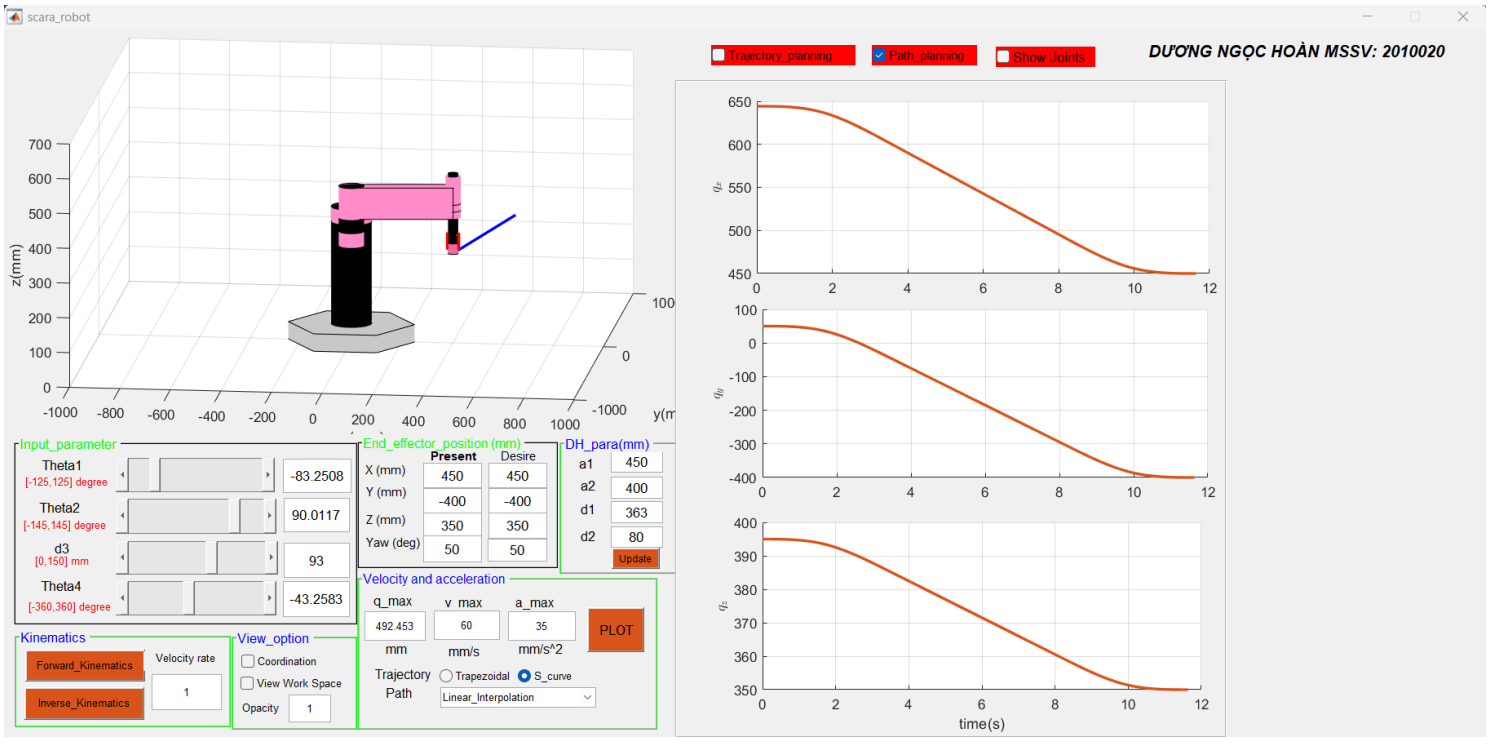

scara_robot
Trajectory_planning
Path_planning
Show Joints
DƯƠNG NGỌC HOÀN MSSV: 2010020
Input_parameter
Theta1
[-125,125] degree
-83.2508
Theta2
[-145,145] degree
90.0117
d3
[0,150] mm
93
Theta4
[-360,360] degree
-43.2583
End_effector_position (mm)
Present
Desire
X (mm) 450 450
Y (mm) -400 -400
Z (mm) 350 350
Yaw (deg) 50 50
DH_para(mm)
a1 450
a2 400
d1 363
d2 80
Update
Velocity and acceleration
q_max
v_max
a_max
675.452
60
35
mm
mm/s
mm/s^2
PLOT
Trajectory
Path
Trapezoidal
S_curve
Linear_Interpolation
Kinematics
Forward_Kinematics
Inverse_Kinematics
Velocity rate
1
View_option
Coordination
View Work Space
Opacity
1

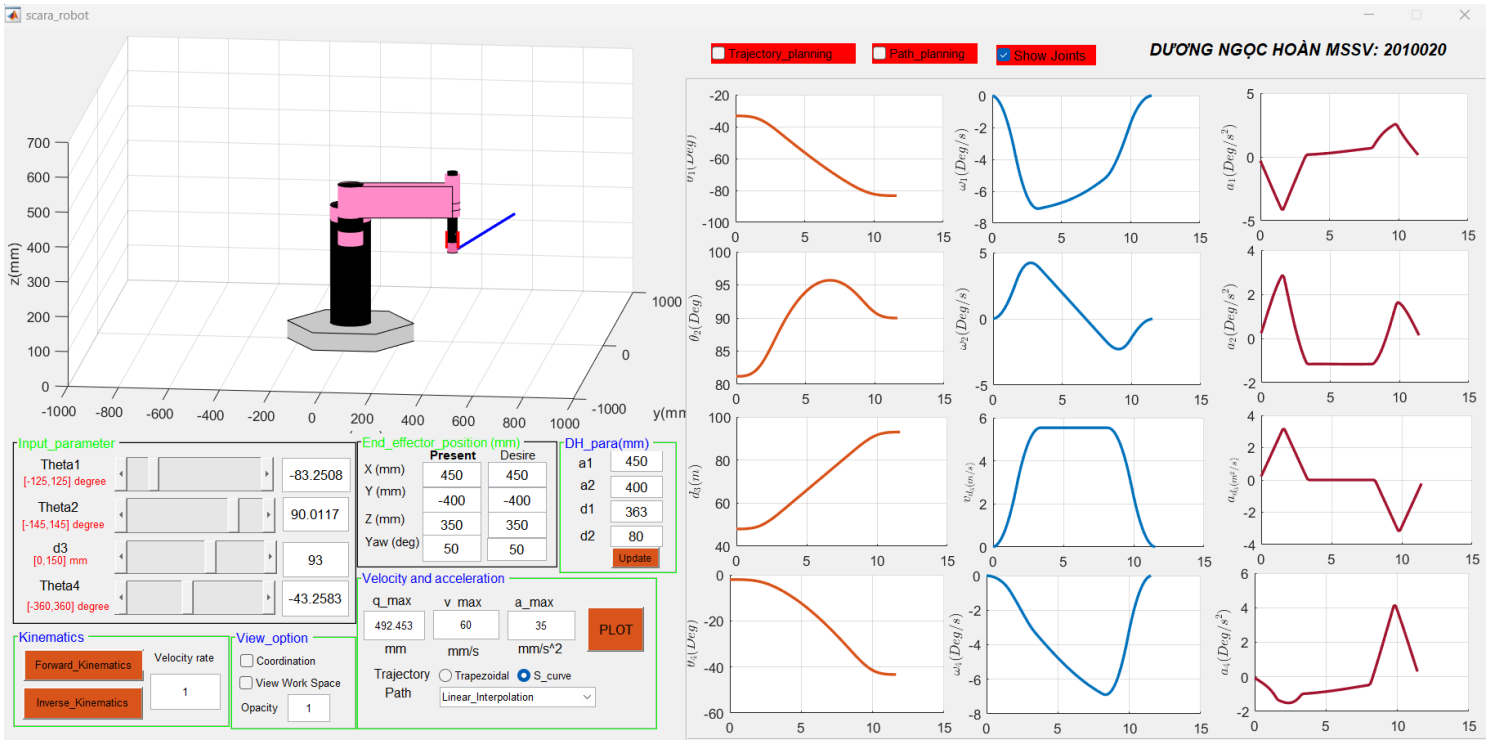

theta1
motor1
theta2
motor2
d3
motor3
theta4
motor4

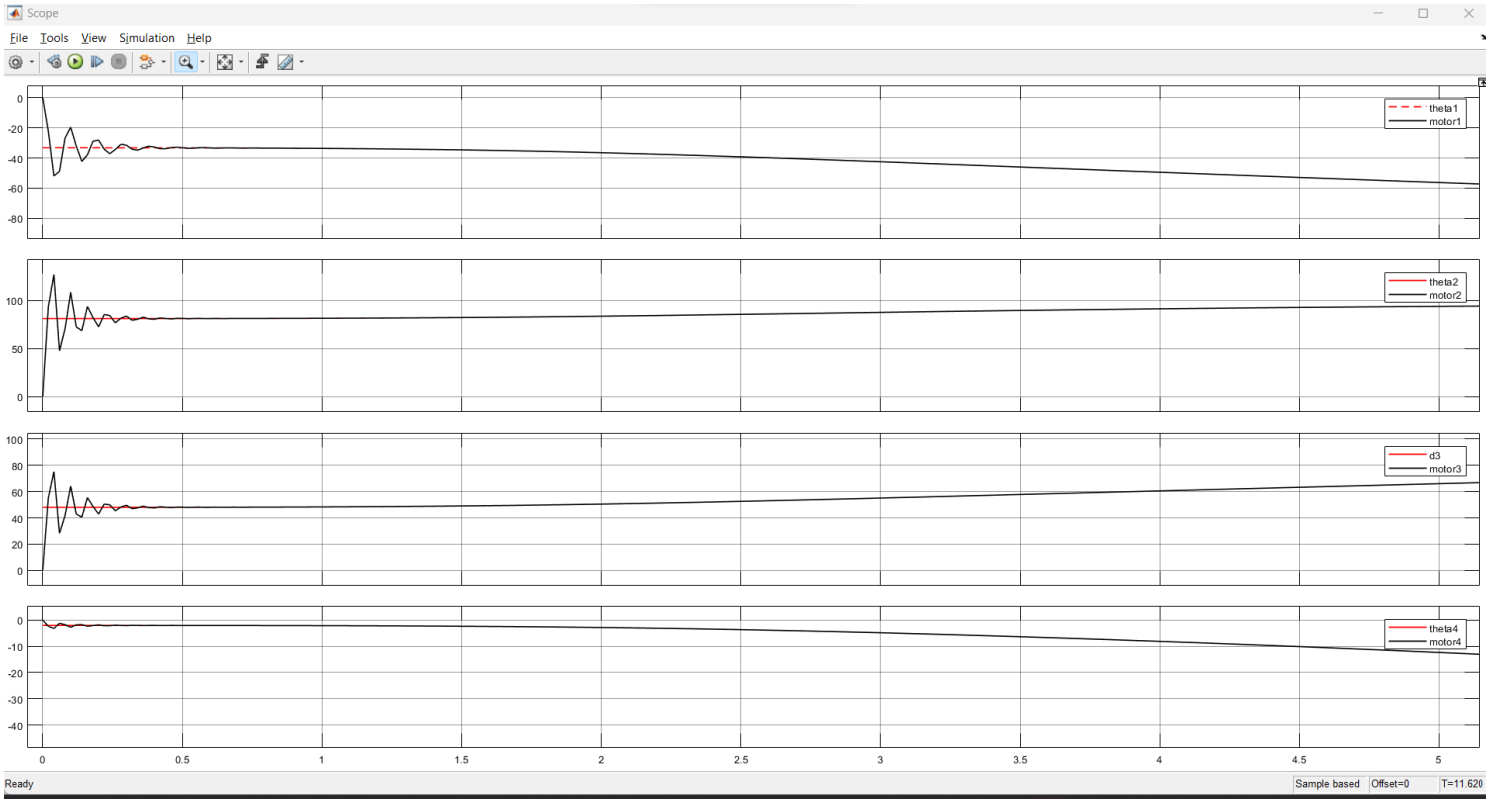
S-CURVE TRAJECTORY

LINEAR INTERPOLATION



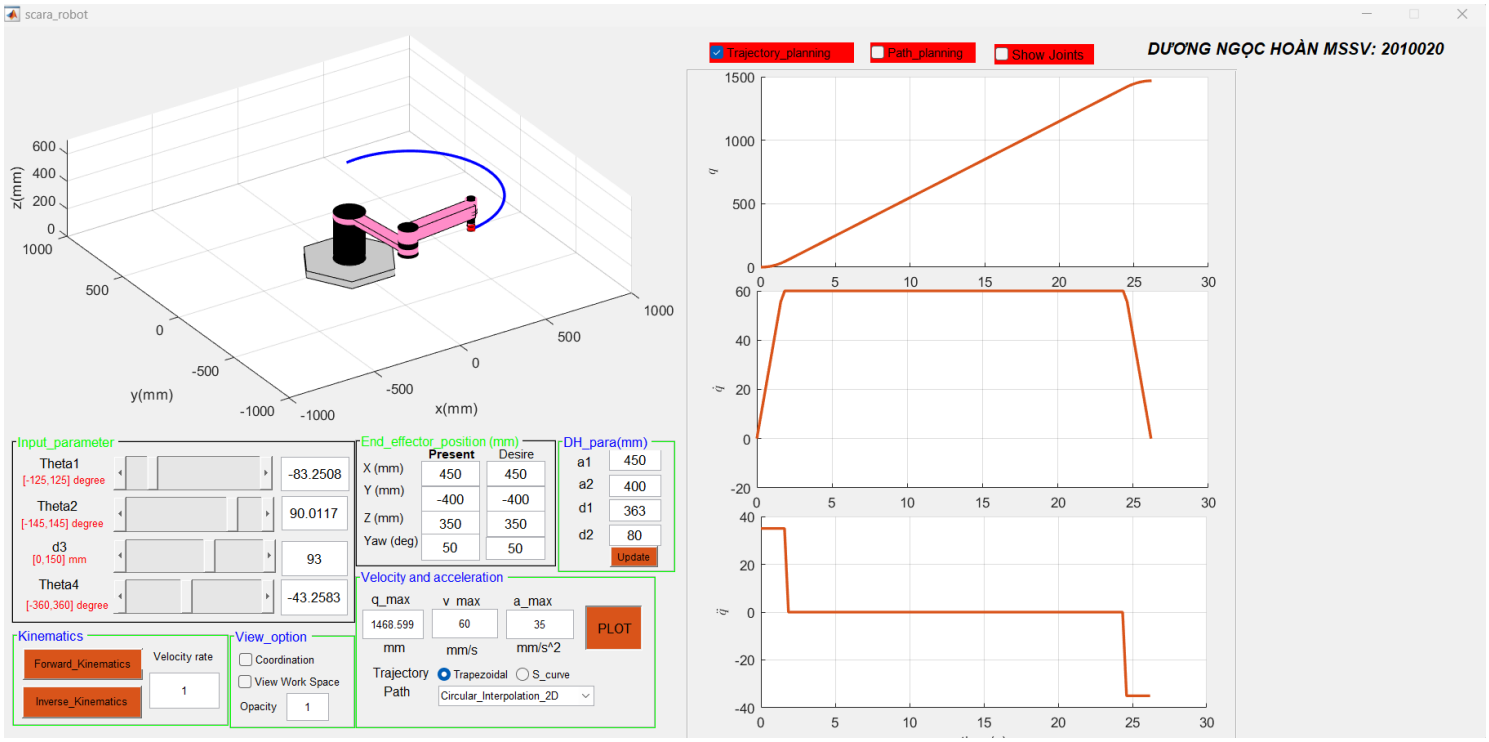


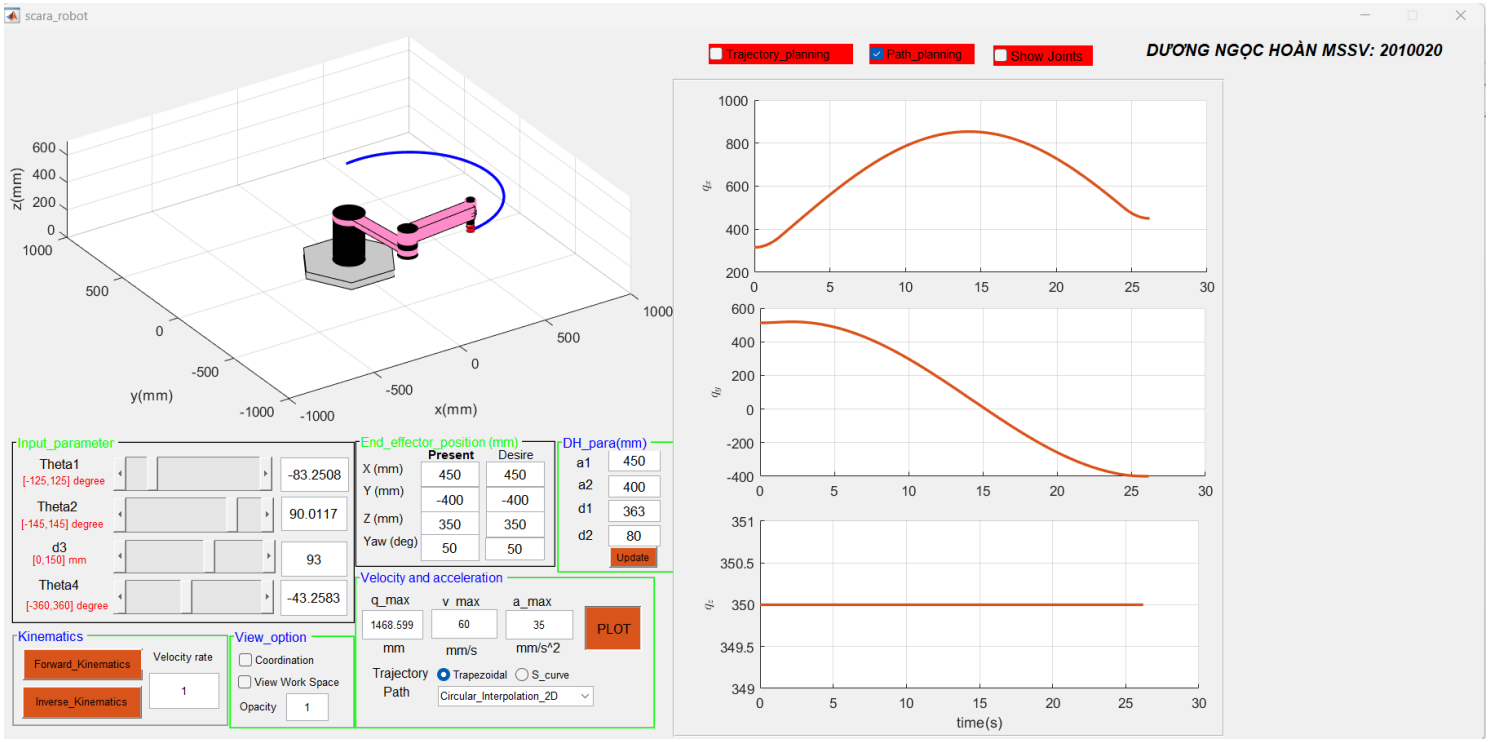

scara_robot
Trajectory_planning
Path_planning
Show Joints
DƯƠNG NGỌC HOÀN MSSV: 2010020
Input_parameter
Theta1
[-125,125] degree
-83.2508
Theta2
[-145,145] degree
90.0117
d3
[0,150] mm
93
Theta4
[-360,360] degree
-43.2583
End_effector_position (mm)
Present
Desire
X (mm) 450 450
Y (mm) -400 -400
Z (mm) 350 350
Yaw (deg) 50 50
DH_para(mm)
a1 450
a2 400
d1 363
d2 80
Update
Velocity and acceleration
q_max
v_max
a_max
492.453
60
35
mm
mm/s
mm/s^2
PLOT
Trajectory
Path
Trapezoidal
S_curve
Linear_Interpolation
Kinematics
Forward_Kinematics
Inverse_Kinematics
Velocity rate
1
View_option
Coordination
View Work Space
Opacity
1

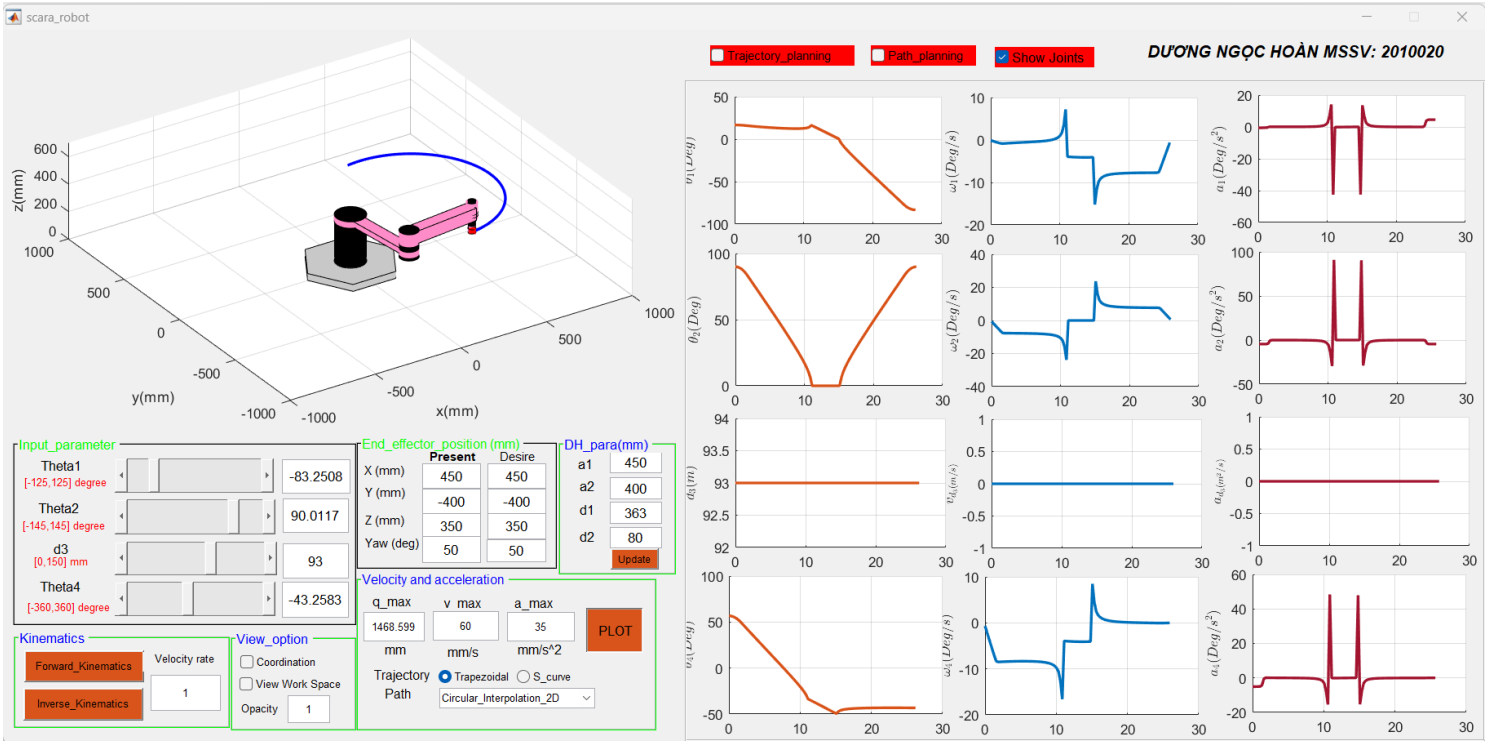

Scope
File Tools View Simulation Help
theta1
motor1
theta2
motor2
d3
motor3
theta4
motor4
Ready
Sample based
Offset=0
T=11.620

TRAPEZOIDAL TRAJECTORY

CIRCULAR 2D INTERPOLATION








```
>> scara_robot
Go through the singularity
Go through the singularity
Go through the singularity
Go through the singularity
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Go through the singularity
Go through the singularity
```
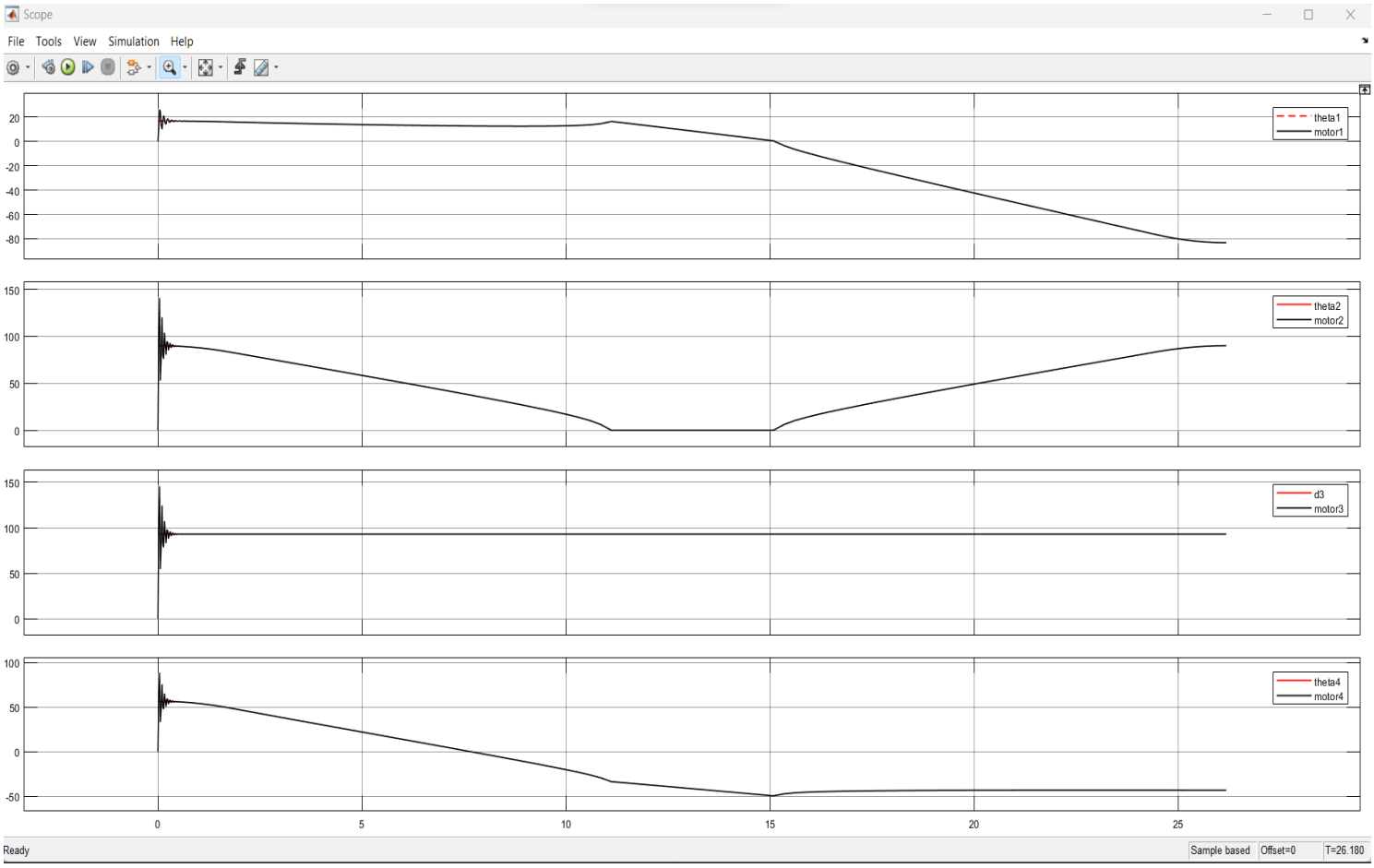
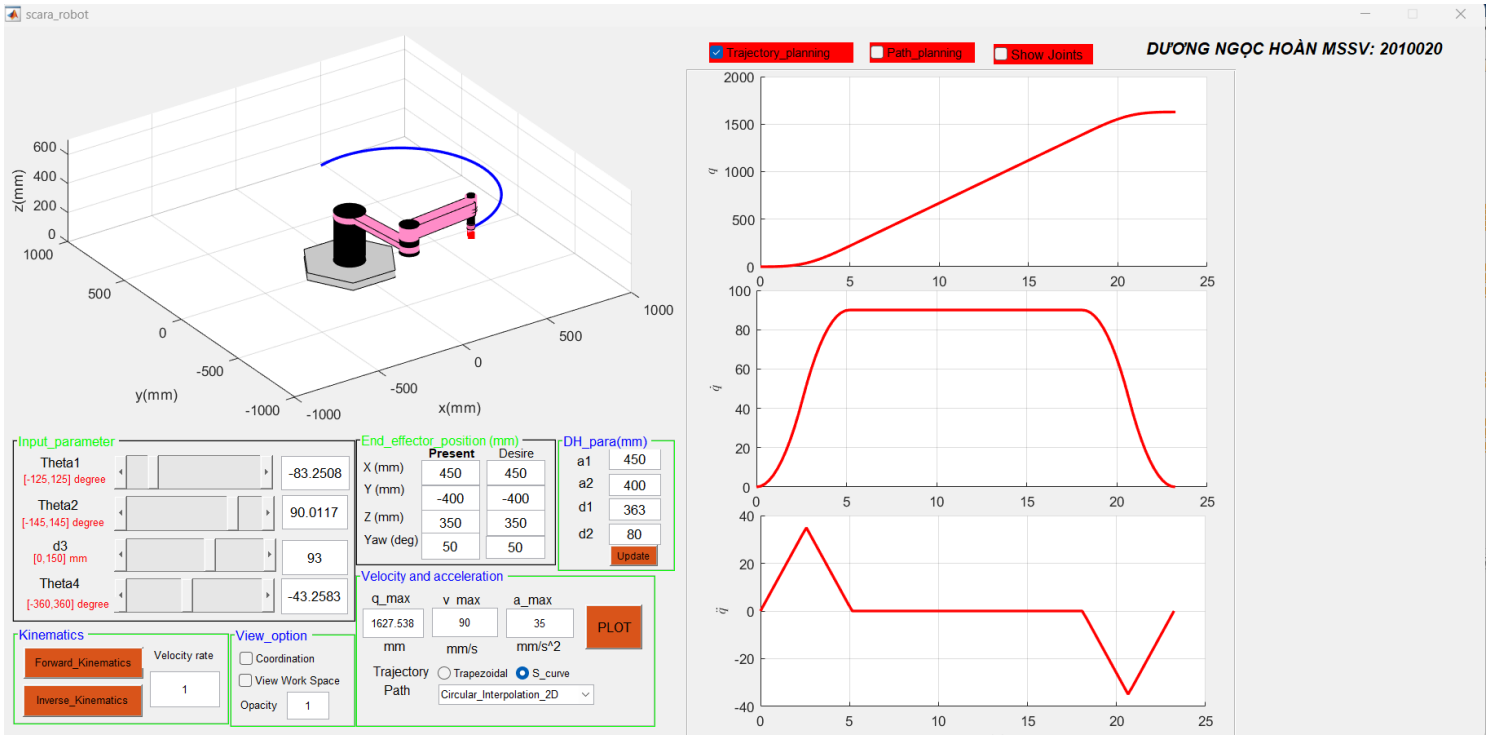
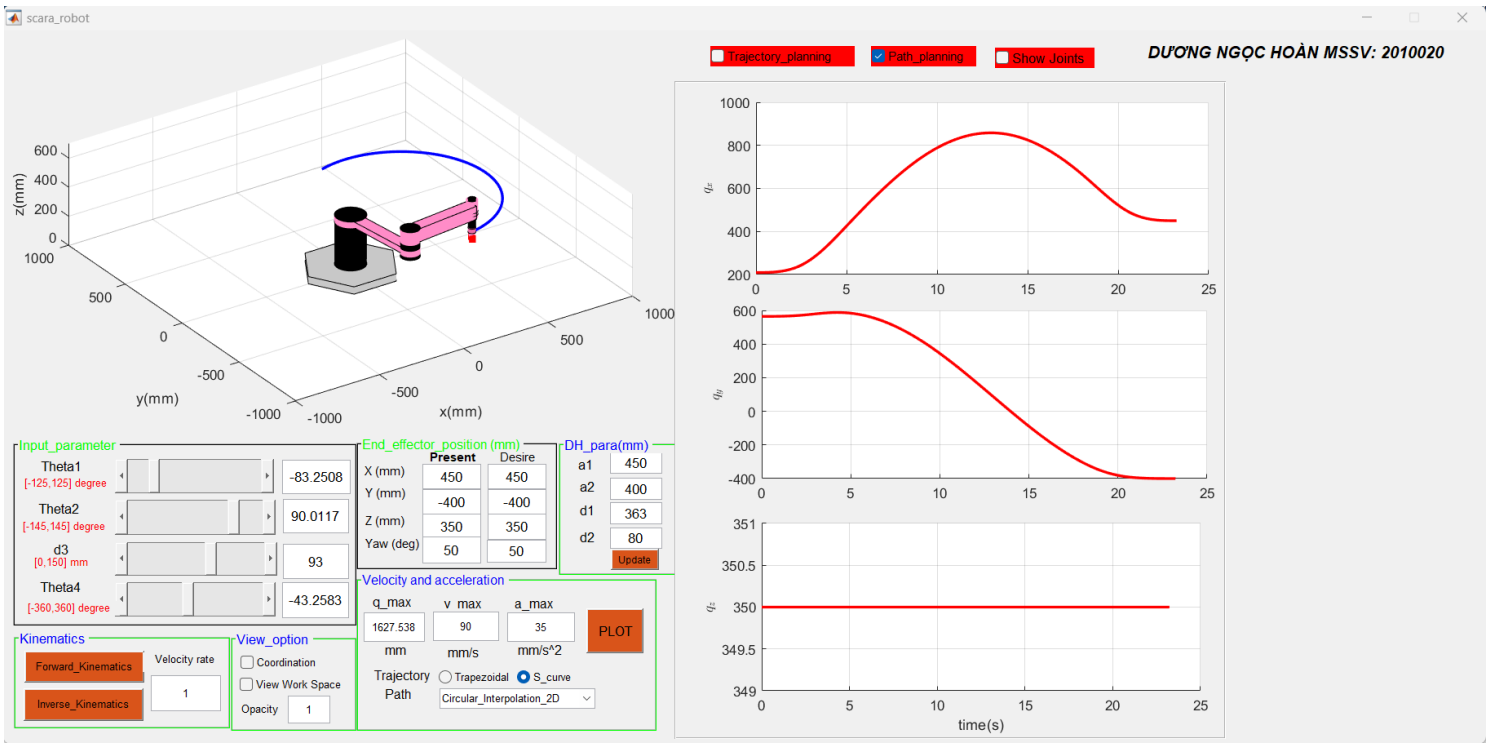
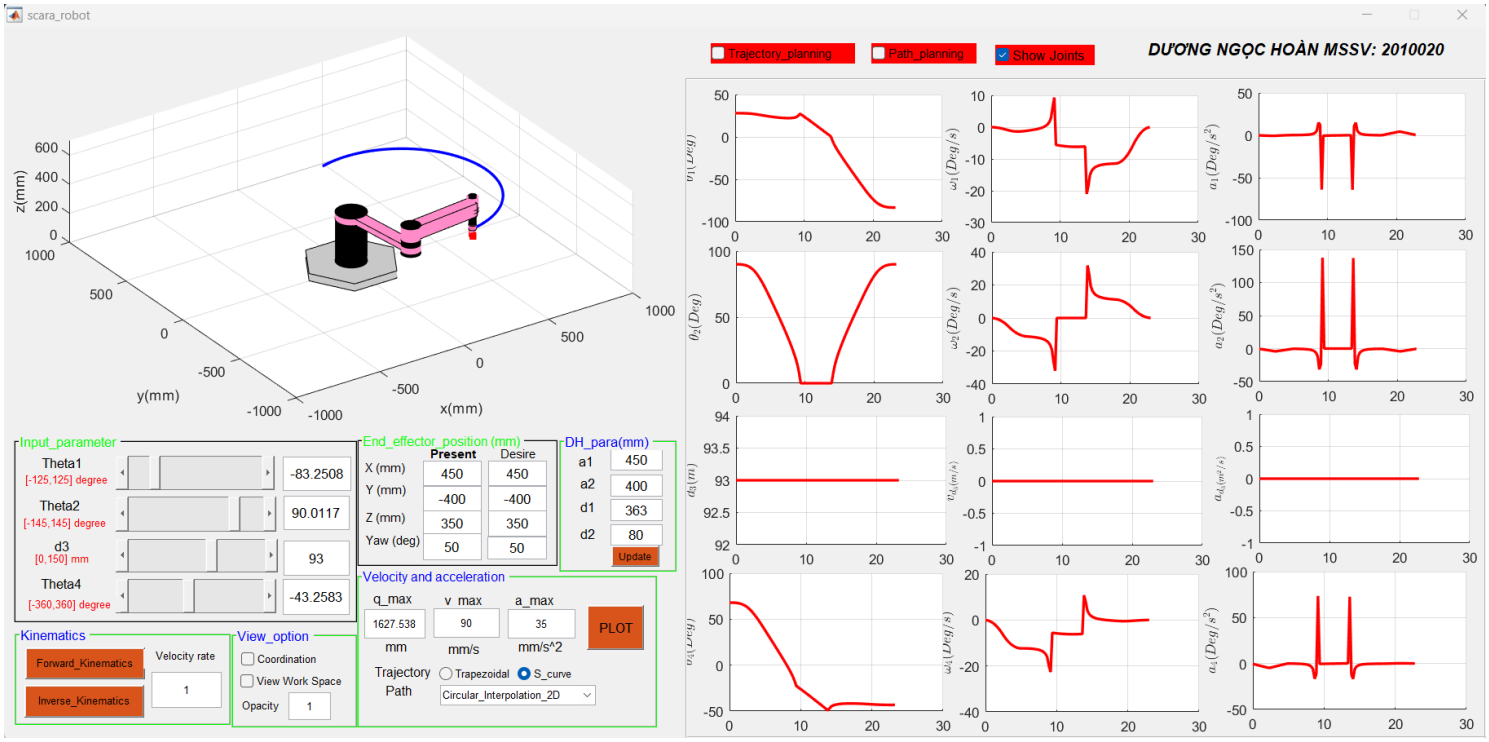


Scope
File Tools View Simulation Help
theta1
motor1
theta2
motor2
d3
motor3
theta4
motor4
Ready
Sample based
Offset=0
T=26.180

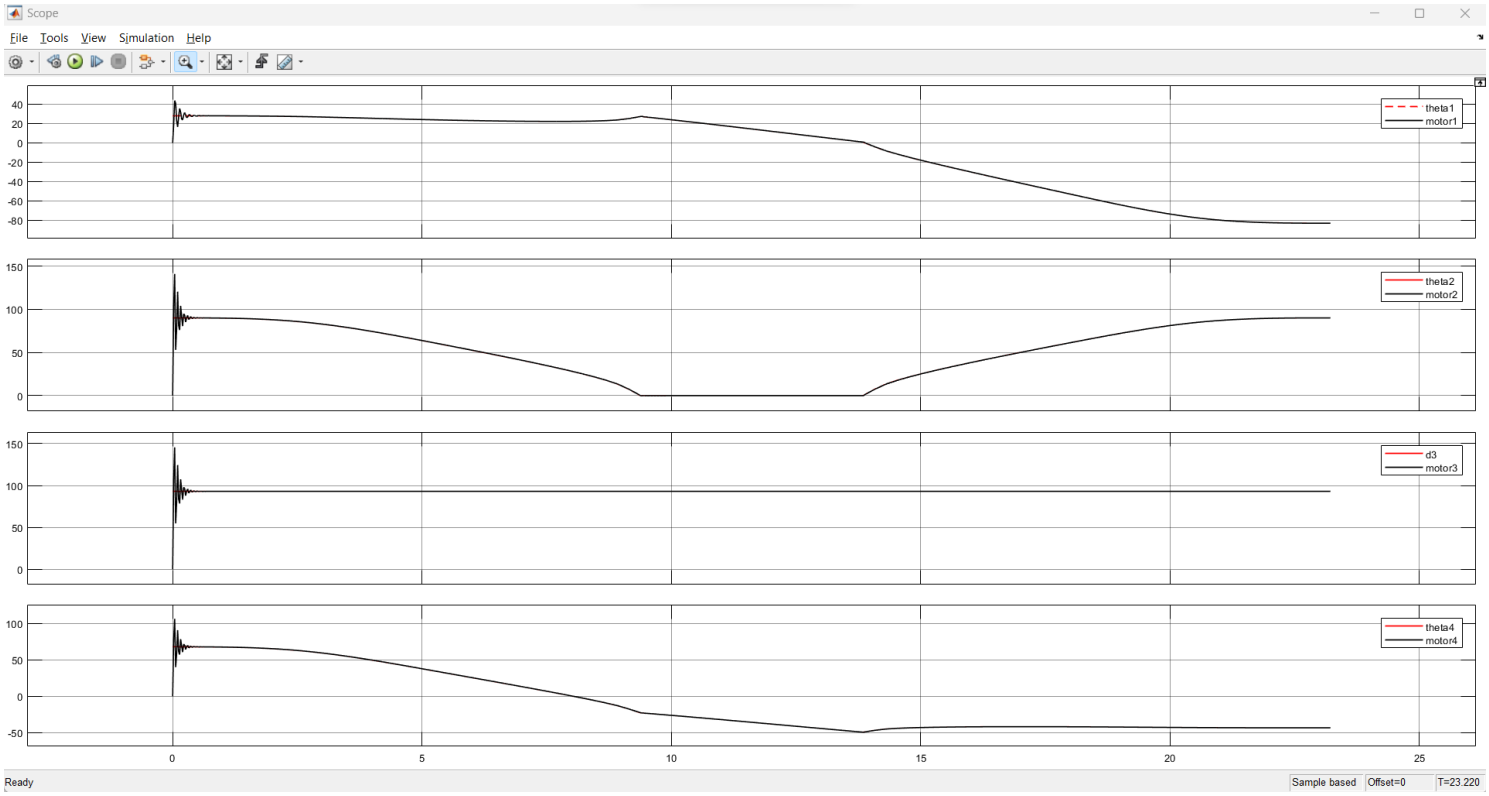
S-CURVE TRAJECTORY

CIRCULAR 2D INTERPOLATION






scara_robot
Trajectory_planning
Path_planning
Show Joints
DƯƠNG NGỌC HOÀN MSSV: 2010020
z(mm)
y(mm)
x(mm)
Input_parameter
Theta1
[-125,125] degree
-83.2508
Theta2
[-145,145] degree
90.0117
d3
[0,150] mm
93
Theta4
[-360,360] degree
-43.2583
End_effector_position (mm)
Present
Desire
X (mm) 450 450
Y (mm) -400 -400
Z (mm) 350 350
Yaw (deg) 50 50
DH_para(mm)
a1 450
a2 400
d1 363
d2 80
Update
Velocity and acceleration
q_max
v_max
a_max
1627.538
90
35
mm
mm/s
mm/s^2
PLOT
Trajectory
Path
Trapezoidal
S_curve
Circular_Interpolation_2D
Kinematics
Forward_Kinematics
Inverse_Kinematics
Velocity rate
1
View_option
Coordination
View Work Space
Opacity
1


Scope
File Tools View Simulation Help
theta1
motor1
theta2
motor2
d3
motor3
theta4
motor4
Ready
Sample based
Offset=0
T=23.220

```
Go through the singularity
Go through the singularity
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Go through the singularity
Go through the singularity
Go through the singularity
>>
```