

	Robodk	Same	Real Robot
tool	ツールの座標系 TCP		
Coordinates	[X,Y,Z]mm Rot[X,Y,Z]deg - Fai		
	-702.300 -33.600 91.600 88.600 0.000 90.500	=	X: -702.3 Y: -33.6 Z: 91.6 W: 88.6 P: -0.0 R: 90.5
user Pos	次の基準に参照系を配置: Fanuc CRX-10A Base		
Coordinates	[X,Y,Z]mm Rot[X,Y,Z]deg - Fanuc/Notonan	=	X: 715.6 Y: -226.2 Z: -251.9 W: -180.0 P: 0.0 R: -179.8

Real Robot

```
# Important, each robot needs a new API connection to allow moving them separately in different threads (if required)
rdk = Robolink()
robot.link = rdk
```

```
# Force simulation mode in case we are already connected to the robot.
# Then, gather the joint position of the robots.
# This will gather the position of the simulated robot instead of the real robot.
rdk.setRunMode(RUNMODE_SIMULATE)
jnts = robot.Joints()
print("jnts == ",jnts)
# connect to the robot:
# rdk.setRunMode(RUNMODE_RUN_ROBOT) # not needed because connect will automatically do it
# state = robot.ConnectSafe()
state = robot.Connect()
print("connect == ",state)
# connect to the robot:
# rdk.setRunMode(RUNMODE_RUN_ROBOT) # not needed because connect will automatically do it
# state = robot.ConnectSafe()
state = robot.Connect()
print("connect == ",state)
```

```
# Check the connection status and message
state, msg = robot.ConnectedState()
print(state)
print(msg)
if state != ROBOTCOM_READY:
    errors = errors + 'Problems connecting: ' + robot.Name() + ': ' + msg + '\n'
else:
    # move to the joint position in the simulator:
    jnts = robot.Joints()
    pose = robot.Pose()
    print("jnts == ",jnts)
    print(f"pose:{pose}")
```

```
connect == 1
0
Ready
```

```
jnts == [[ -20.252 ],
[ 9.703 ],
[ -14.888 ],
[ -85.961 ],
[ -110.046 ],
[ 105.988 ]]
```

Same

Real Robot(Joint)

```
J1: -20.252 J2: 9.703 J3: -14.888
J4: -85.961 J5: -110.046 J6: 105.988

J2/J3 干涉角: -5.185
```

Robodk(TCP)

```
pose:Pose(205.790, 286.574, 195.529, -179.982, 0.134, 179.933):
[[ -1.000, -0.001, 0.002, 205.790 ],
[ -0.001, 1.000, 0.000, 286.574 ],
[ -0.002, 0.000, -1.000, 195.529 ],
[ 0.000, 0.000, 0.000, 1.000 ]]
```

different

Real Robot(TCP)

```
形態: N U T, 0, 0, 0
x: 206.029 y: 286.662 z: 195.211
w: 179.994 p: .012 r: -180.000
```

Robodk(TCP)

ツールの座標系 TCP	ロボットフランジに対して
[X,Y,Z]mm Rot[X,Y,Z]deg - Fai	
-702.300 -33.600 91.600 88.600 0.000 90.500	
参照系 UFX(Direct_Connec)	ロボットの外台に対して
[X,Y,Z]mm Rot[X,Y,Z]deg - Fai	
715.600 -226.200 -251.900 -180.000 0.000 -179.800	
参照系に対するツールの座標系	
[X,Y,Z]mm Rot[X,Y,Z]deg - Fai	
205.790 286.574 195.529 179.982 0.134 -179.933	
ツールの座標系	作業スペース
	座標系を表示