In this assignment I tried to learn more about the robotic movements and their flexibilities and constraints through controlling the movement of the light baton in a vertical plane.

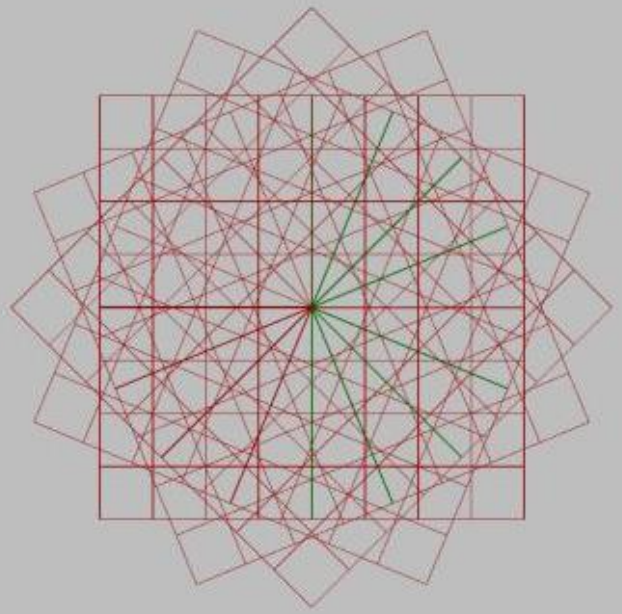
Here are the parameters I tested through this assignment.

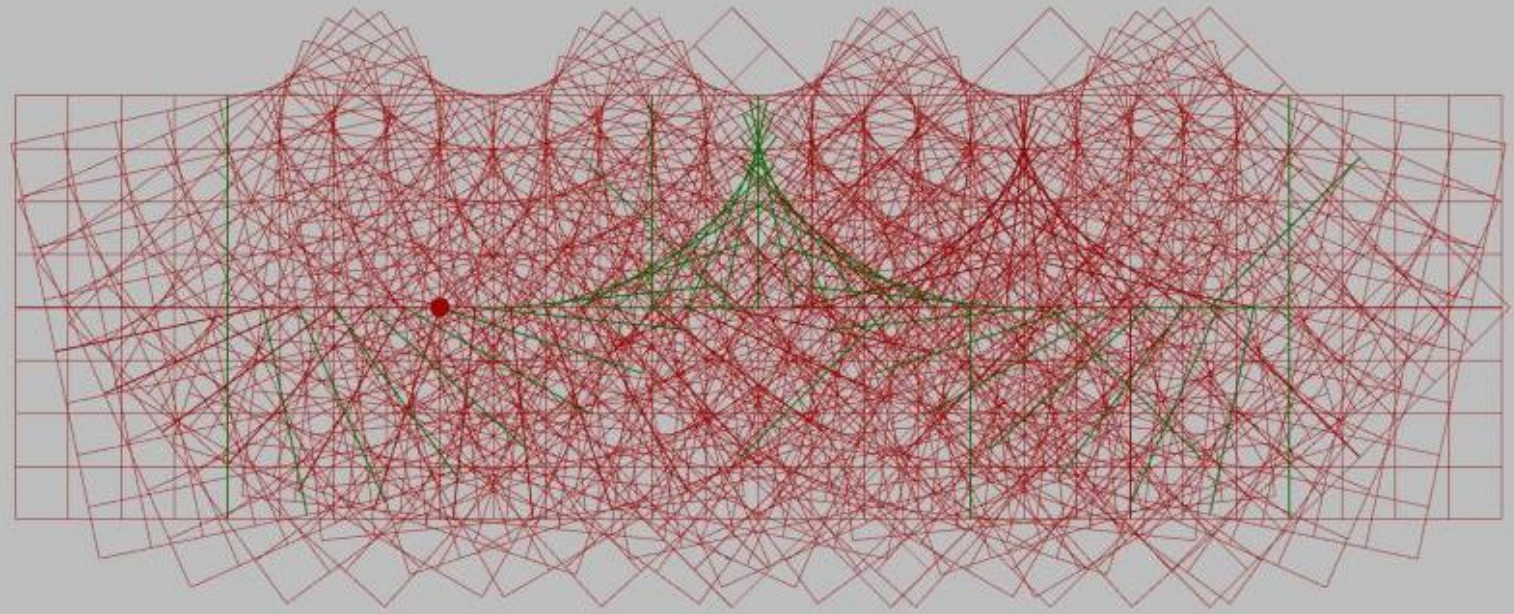
1_ Testing circular and translational movements using rotated and translated planes.

2_ Testing PTP, LIN, and SPL or combination of the commands to perform the movements.

3_ Understanding the effect of discretization of the movements into smaller steps to accommodate the robotic accessibility.

2_ SINGLE TRANSLATION TWICE THE SIZE OF THE BATON





1_ IN PLACE 180 CCW ROTATION

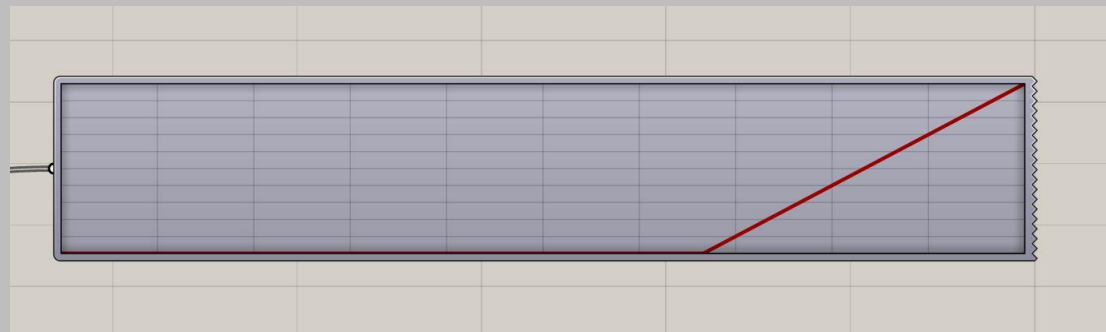
3_ COMBINED 360 ROTATION AND TRANSLATION

SPLINE MOVEMENT

50 step rotation and translation

- Collision errors
- Sudden jump in the first rotation
- t= 0.77

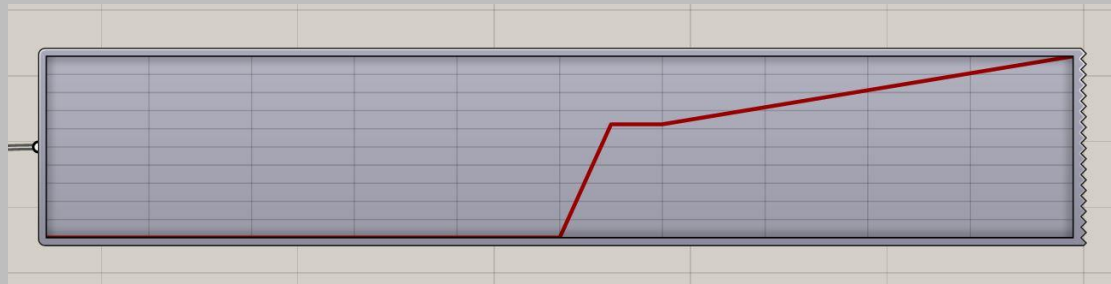
MOVEMENT TIME GRAPH

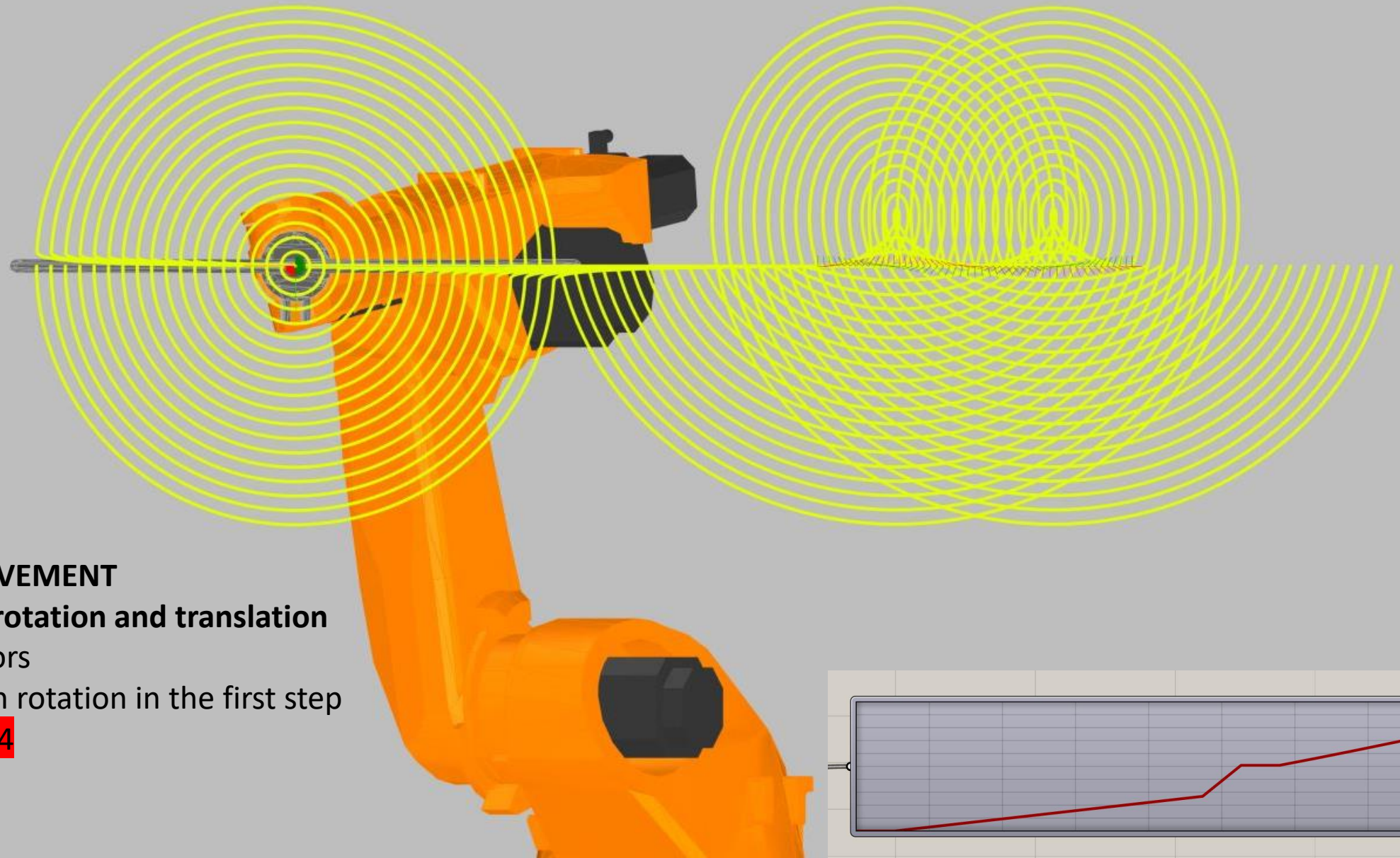


LIN MOVEMENT

50 step rotation and translation

- Singularity errors
- Sudden jump in the first rotation
- t= 1.6



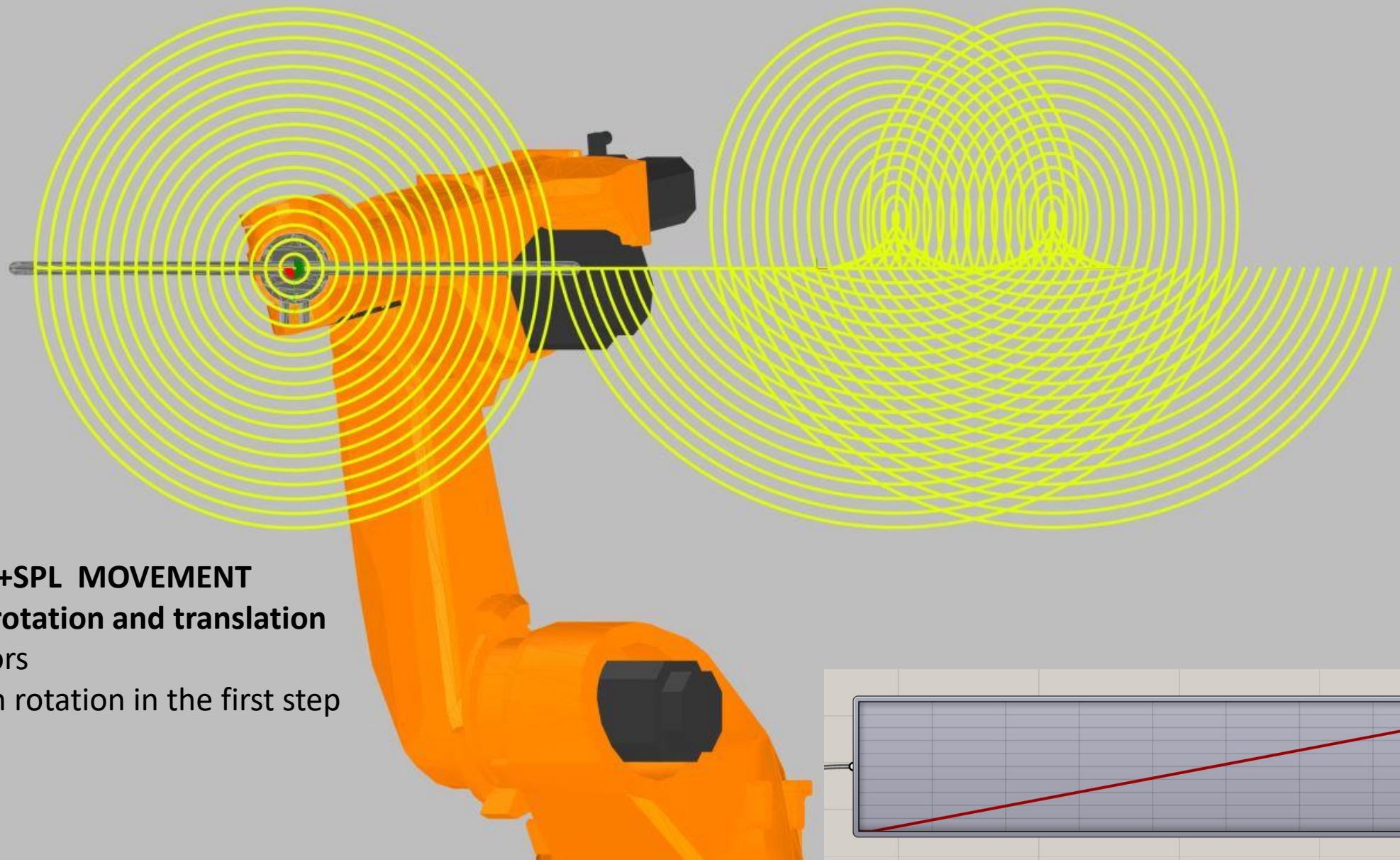


PTP MOVEMENT

50 step rotation and translation

- No errors
- Smooth rotation in the first step
- t= 208.4

PTP rotation **LIN movement** **SPL rotation and movement**



PTP+LIN+SPL MOVEMENT

50 step rotation and translation

- No errors
- Smooth rotation in the first step
- t= 58