Graph #1:

l e interpolation appears more rigid while b e interpolation is smoother and aligns better with the input.

Graph #2:

b q is smoother than l q.

Graph #3:

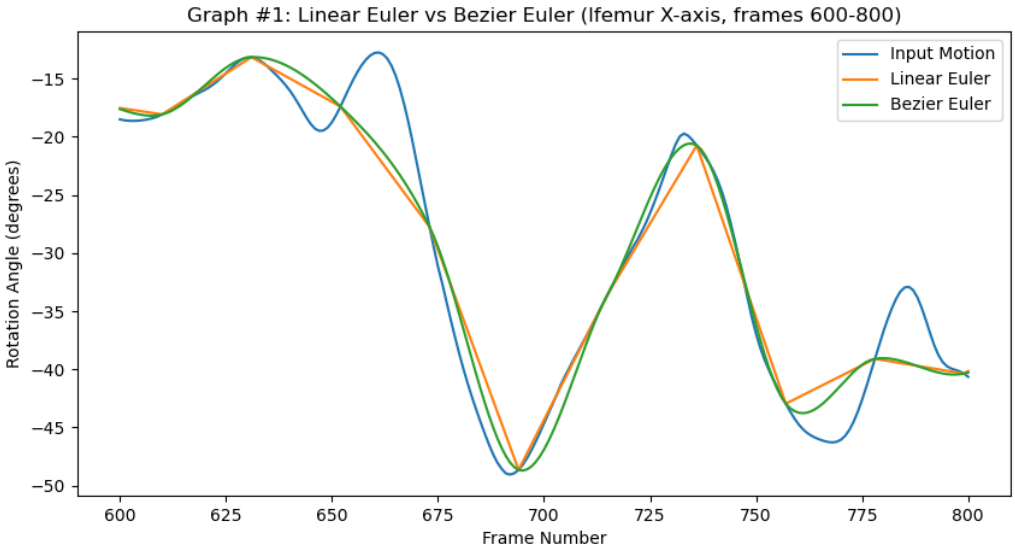
l e is too sharp while l q is smoother, though both of them cannot work well on non-monotonic curves between two frames.

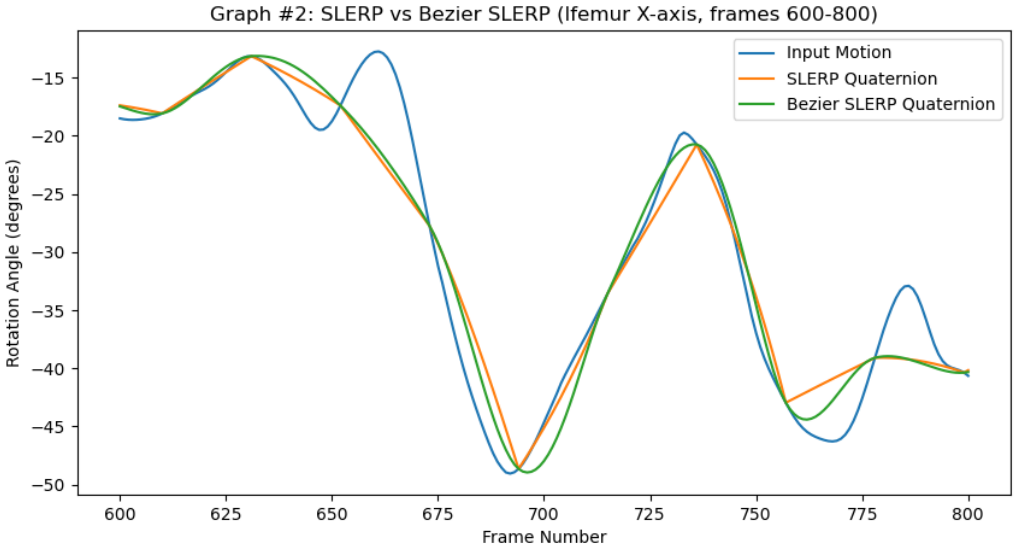
Graph #4:

b e shows a way too sharp drop near frame 500 while b q performs much better. b q can even interpolate some non-monotonic curve well between two key frames

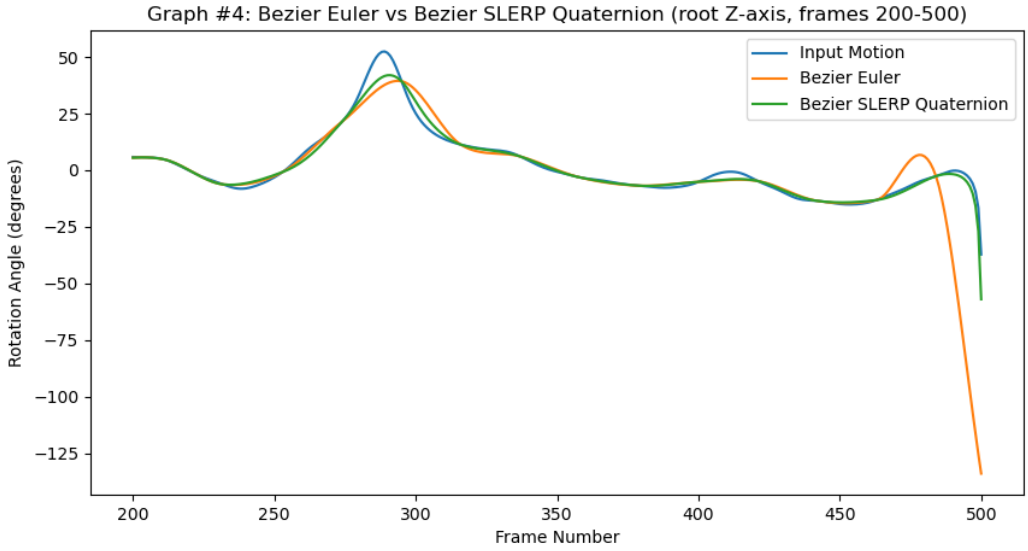
In conclusion, b works better than l and q works better than e. Bezier SLERP quaternion is likely the most suitable interpolation method.

However, it takes much longer to calculate. There's a trade off between the accuracy and calculation time.


Graph #1: Linear Euler vs Bezier Euler (lfemur X-axis, frames 600-800)
Input Motion
Linear Euler
Bezier Euler
Rotation Angle (degrees)
−15
−20
−25
−30
−35
−40
−45
−50
600
625
650
675
700
725
750
775
800
Frame Number


Graph #2: SLERP vs Bezier SLERP (lfemur X-axis, frames 600-800)
Input Motion
SLERP Quaternion
Bezier SLERP Quaternion
Rotation Angle (degrees)
−15
−20
−25
−30
−35
−40
−45
−50
600
625
650
675
700
725
750
775
800
Frame Number


Graph #3: Linear Euler vs SLERP Quaternion (root Z-axis, frames 200-500)
Input Motion
Linear Euler
SLERP Quaternion
Rotation Angle (degrees)
Frame Number
50
25
0
−25
−50
−75
−100
−125
200
250
300
350
400
450
500


Graph #4: Bezier Euler vs Bezier SLERP Quaternion (root Z-axis, frames 200-500)
Input Motion
Bezier Euler
Bezier SLERP Quaternion
Rotation Angle (degrees)
Frame Number
50
25
0
−25
−50
−75
−100
−125
200
250
300
350
400
450
500