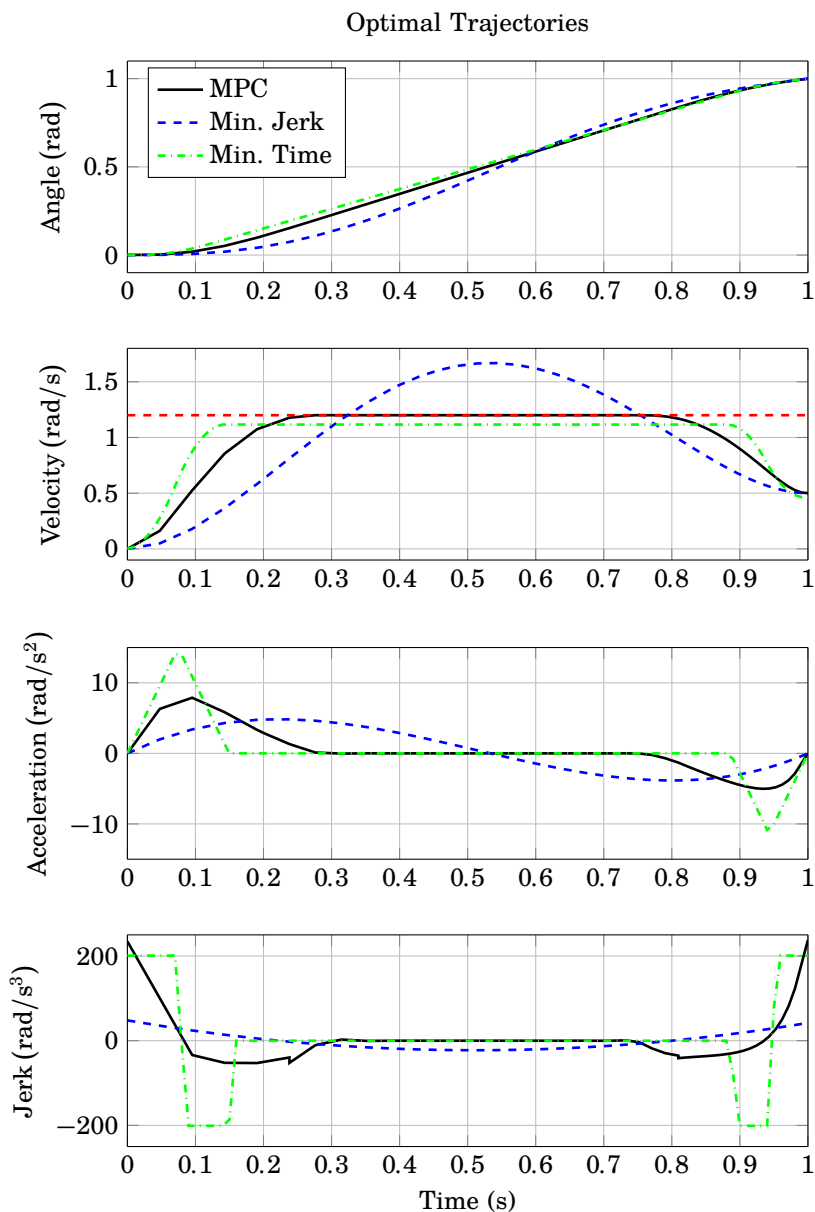


# On Trajectory Generation for Robots

## Errata

- Page 29, in (2.32):  $q$  as the first element of  $\dot{x}$  should be replaced by  $\dot{q}$ .
- Page 29, the upper limit of the summation in (2.34):  $2n \rightarrow n$ .
- Page 30, the line after (2.36): ~~expanding~~ **spanning** the nullspace.
- Page 33, first paragraph: Therefore, repulsive forces are **may not be** required at all **for position-controlled robots**, ...
- Page 57, second line of Sec. 3.6:  $\tilde{d} \rightarrow d$ .
- Page 130, Fig. 6.12: The optimal trajectory for the min. time is incorrect. The updated figure is attached.
- Page 136, second line:  $h(q) > 0 \rightarrow h(q) \geq 0$ .
- Page 136, the line after (7.10): ..., the velocity of **the link at** the contact point.
- Page 150, the caption of Fig. 7.4:  $(0.5, 0.5) \rightarrow (-0.5, -0.5)$
- Page 157, the caption of Fig. 7.13: ~~and the minimum distance to the last link  $h$ .~~
- Pages 157 and 158, the captions of Figs. 7.13 and 7.15:  $\phi_{L^2} \rightarrow$  the quadratic cost.
- Page 160, in (7.76):  $f_i, x_i, u_i$  should be replaced by  $f^i, x^i, u^i$ , respectively.
- Page 161, fifth line:  $x_i \rightarrow x^i$ .
- Page 170, in (8.5) and page 184, in (8.49): A factor of 16 is missing in the expression of  $T_u(s)$ .
- Page 189, 6th line from the bottom: Fig. 8.12a  $\rightarrow$  8.12b.



**Figure 6.12** Comparison of the trajectories in Fig. 6.3 in Sec. 6.4 computed with the MPC-based optimization approach (solid black) with the corresponding trajectories obtained by minimizing the jerk (dashed blue) and by scaling the minimum-time solution (dashed-dotted green).