

Real Results

Torque-limited Simple Pendulum



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Noisy Dynamics

Disturbance amplitude: 2 Nm



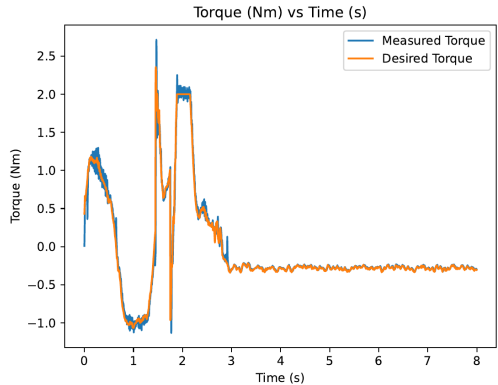
Noisy Dynamics

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Different Initial Conditions

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- Initial condition for TVLQR control:
 $x = [0, 0]$
- Disturbance action:
 $t \in [1.5, 1.7]$
- Result swing-up: Successful

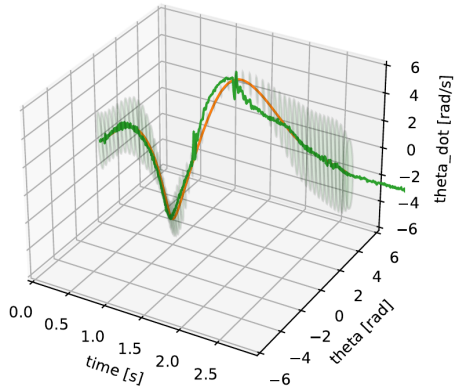


Real Results

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3d resulting Funnel



Disturbance amplitude: 2 Nm



Noisy Dynamics

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Different Initial Conditions

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videos/rvDIST2.mp4

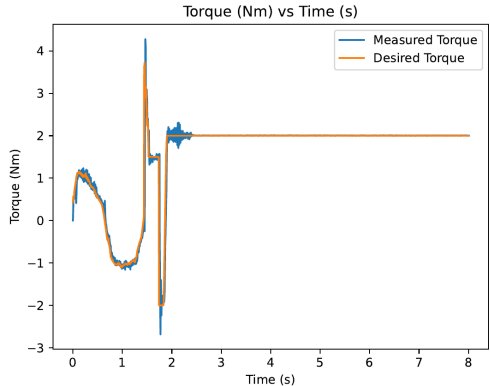


Real Results

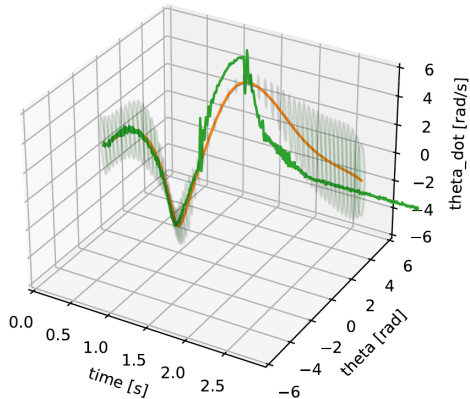
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- Initial condition for TVLQR control:
 $x = [0, 0]$
- Disturbance action:
 $t \in [1.5, 1.7]$
- Result swing-up: Failure
 $x_f = [2.1, 5.5e-03]$



3d resulting Funnel



Disturbance amplitude: 3.5 Nm



Noisy Dynamics

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Different Initial Conditions

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videos/rvDIST35.mp4



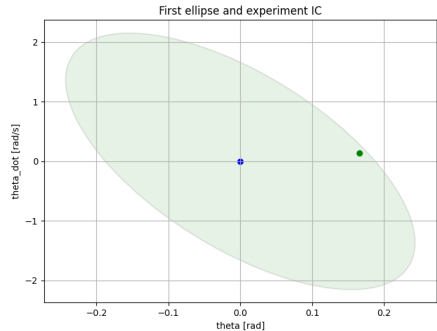
Real Results

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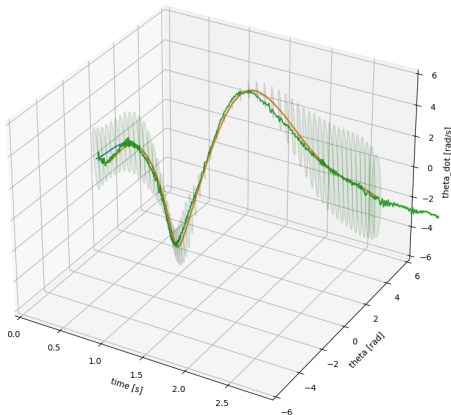
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Different Initial Conditions

- Initial condition for TVLQR control:
 $x = [1.7\text{e-}01, 3.2\text{e-}01]$
- Disturbance action:
None
- Result swing-up: Successful



3d resulting Funnel



videos/rvLQR02.mp4