Team Report 2024/12/17

Lyapunov Stability Proof for n-link Robot

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| Robot motion equation: | (1) |
| Erro Definition: | (2) |
| Sliding Surface: | (3) |
| Lyapunov Stability Condition: | (4) |
| Substitute (1) in (4): | (5) |
| Exponential Reaching low for Sliding Surface: | (6) |
| From (5), (6) we have: | (7) |
| Substitute (7) in (5): | (8) |
| Considering that  We know | (9) |
|  | (10) |
|  | (11) |
|  | (12) |
|  | (13) |