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Repository: https://github.com/theSadeQ/dip-smc-pso
Documentation: academic/paper/presentations/podcasts/episodes/

uick reference for DIP-SMC-PSO controllers and dynamics models.

section 0 Controller Variants

Controller	Gains	Complexity
Classical SMC	6 (λ_1-λ_2, ϕ_1-ϕ_2, k_1-k_2)	Low
Super-Twisting	8 (classical + STA params)	Medium
Adaptive SMC	6 + adaptation rates	Medium
Hybrid Adaptive STA	8 + adaptation	High

section 0 Dynamics Models

- **Simplified**: Linearized equations (fast prototyping)
- **Full Nonlinear**: Complete physics (research accuracy)
- **Low-Rank**: Approximations (real-time applications)

section 0 API Reference

```
lstnumberfrom src.controllers.factory import create_controller
lstnumbercontroller = create_controller('classical_smc', config, gains)
lstnumbercontrol = controller.compute_control(state)
```

Next: E027 Testing & Benchmarking Reference