

2025-11-01

E029: Appendix Part 5 [SERIES FINALE]

Research Deliverables & Future Work

Part Appendix · Duration: 8-10 minutes

Beginner-Friendly Visual Study Guide

section 0 Overview

Final deliverables, completion status, and future roadmap for the DIP-SMC-PSO toolkit.

section 0 Phase 5 Research Deliverables

subsection 0.0 Completion Status

Task Category	Status
Quick Wins (QW-1 to QW-5)	5/5 (100%)
Medium-Term (MT-5 to MT-8)	4/4 (100%)
Long-Term (LT-4, LT-6, LT-7)	3/3 (100%)
Total	11/11 (100%)

subsection 0.0 LT-7 Research Paper

- Status: Submission-ready (v2.1)
- Figures: 14 publication-quality
- Bibliography: 39 entries
- Automation: Scripts regenerate all figures from raw data

section 0 Production Readiness

- Current: 23.9/100 (research-ready)
- Target: 80/100 (production-ready)
- Effort: 200-300 hours (Phase 4.3-4.5)
- Timeline: Post-publication

section 0 Future Work

subsection 0.0 Phase 6: Real-World Deployment

- Hardware-in-the-Loop experiments
- Real-time constraints (<10ms latency)
- Safety validation (fail-safes, constraints)
- Field testing (1000-hour endurance runs)

subsection 0.0 Phase 7: Community & Open Source

- Public GitHub repository
- Sphinx docs on Read the Docs
- Video tutorials (YouTube)
- Community forum

Series Complete

DIP-SMC-PSO Professional Toolkit Complete Series: E001-E029 (29 Episodes)

Phase 1: E001-E005 (5 episodes)

Phase 2: E006-E014 (9 episodes)

Phase 3: E015-E021 (7 episodes)

Phase 4: E022-E029 (8 episodes)

Thank you for following this journey!

- End of Series -