Podcast Episode E008

Super-Twisting Algorithm: Smooth Yet Robust Control

DIP-SMC-PSO Project

Generated from comprehensive presentation materials

January 23, 2026

Episode Overview

This episode is part of a comprehensive 100+ episode podcast series covering the Double-Inverted Pendulum Sliding Mode Control with PSO Optimization project.

Topic: Super-Twisting Algorithm: Smooth Yet Robust Control

Section: 02

Duration: 15-20 minutes (estimated)

Format: Conversational AI-generated audio via Google NotebookLM

Introduction

[TODO: Add detailed content for this episode]

This episode should cover the following key points:

- Overview of the topic
- Technical deep-dive with examples
- Connections to other parts of the project
- Practical insights and lessons learned

Technical Details

[TODO: Extract relevant slides from sections/part1_foundations/02_*.tex]

Key Takeaways

[TODO: Summarize main points]

Next Episode Preview

[TODO: Transition to next episode topic]

Production Notes

NotebookLM Processing:

1. Compile this .tex file to PDF: `pdflatex E008_...`

2. Upload PDF to NotebookLM notebook

3. Click "Generate Audio Overview"

4. Download resulting .mp3 file

5. Rename to: $\texttt{E008\_Super-Twisting}_{Algorithm} :_S mooth_Y et_R obust_C ontrol.mp3$

   Target Audience: Graduate students, control engineers, Python developers

   Prerequisites: Basic understanding of control theory and Python

   Related Episodes:

   - Previous: [Episode ID]

   - Next: [Episode ID]