



NPTEL ONLINE CERTIFICATION COURSES

DIGITAL CONTROL IN SMPCs AND FPGA-BASED PROTOTYPING

Dr. Santanu Kapat

Electrical Engineering Department, IIT KHARAGPUR

Module 03: MATLAB Custom Model Development under Digital Control

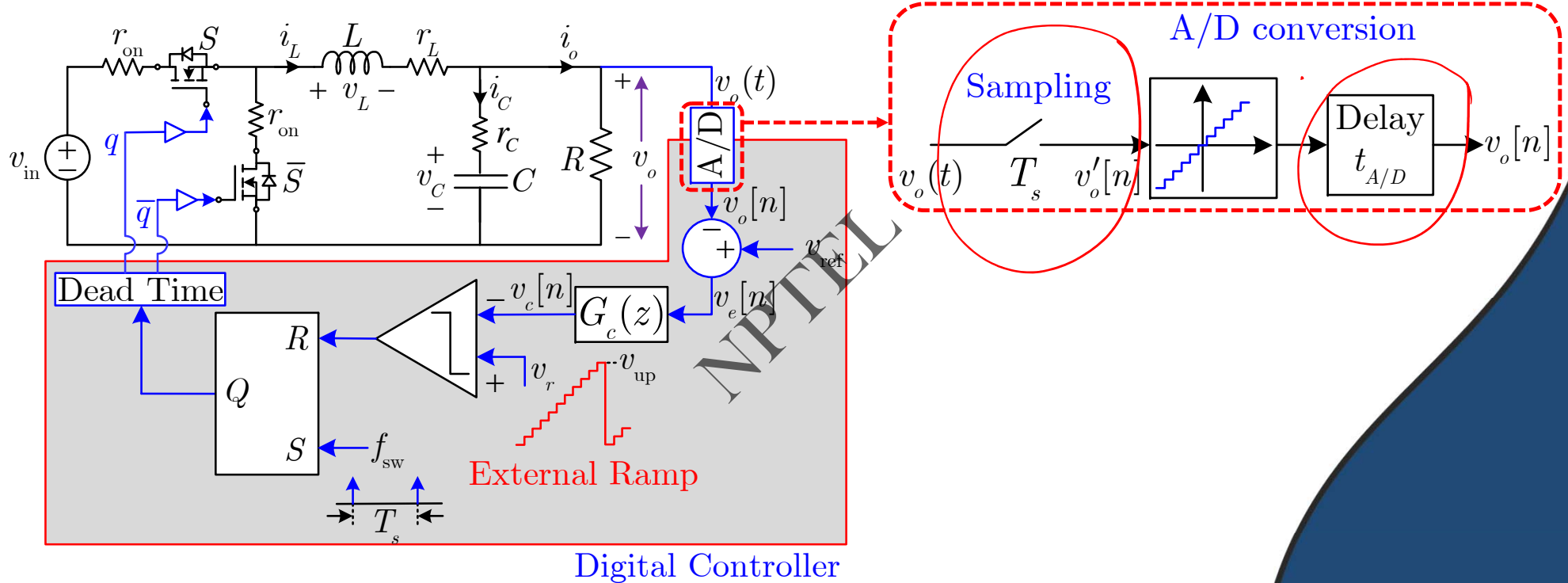
Lecture 23: MATLAB Model Development for Fixed Frequency Digital Control



CONCEPTS COVERED

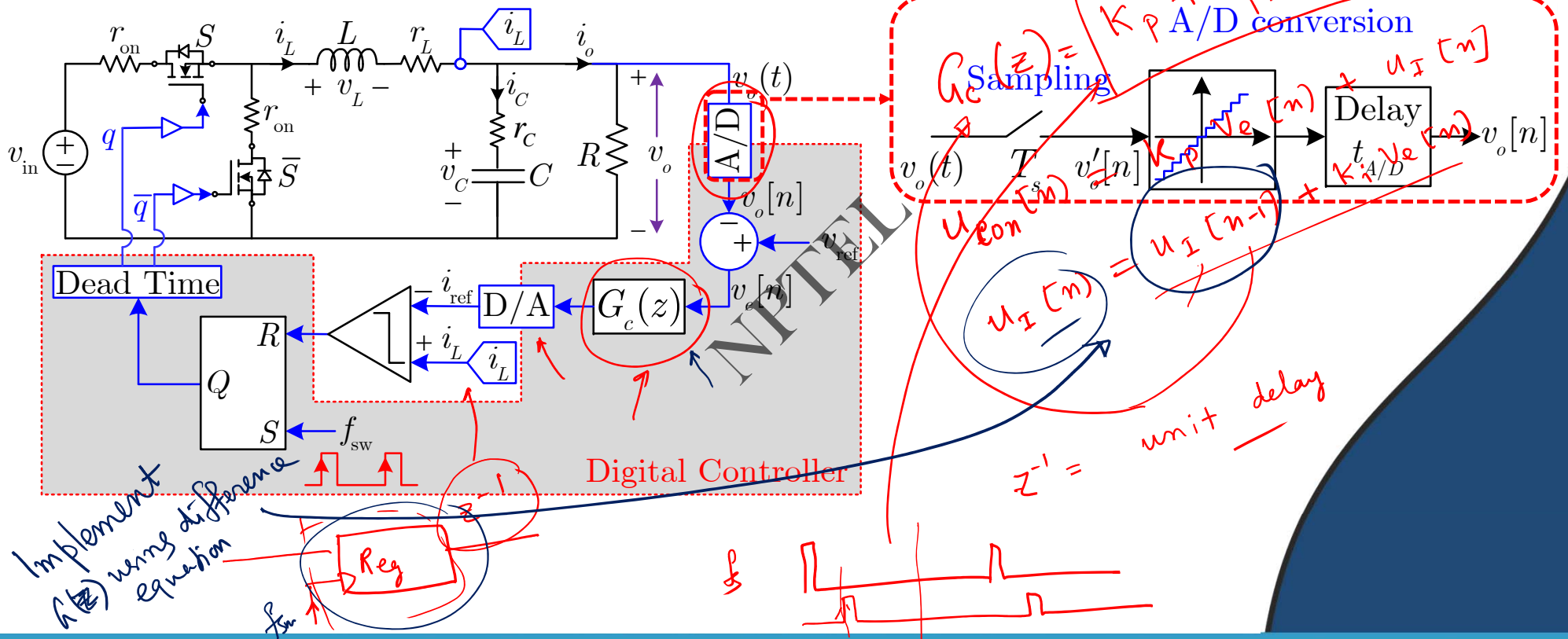
- Step-by-step MATLAB model development for digital voltage mode control
- Buck converter example with simulation
- MATLAB model of digital CMC

Digital Voltage Mode Control



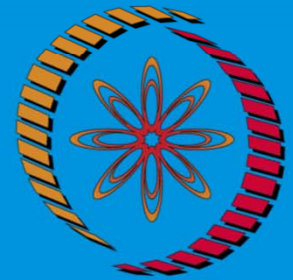
DPWM voltage-mode control: Buck Converter

Mixed-Signal Peak CMC Architecture



CONCLUSION

- Step-by-step MATLAB model development for digital voltage mode control
- Buck converter example with simulation
- MATLAB model of digital CMC



**THANK
YOU !**