

An Unofficial Beamer- \LaTeX template from the Universidad Técnica Federico Santa María

subtitle

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UNIVERSIDAD TECNICA
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Advanced Center
for Electrical and Electronic Engineering

Contents

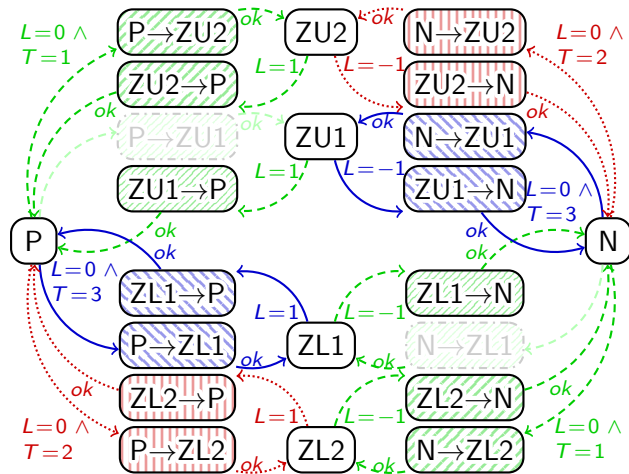
- 1 Section x
 - Subsection xx

- 2 Section y
 - Subsection xx
 - Subsection yy

Contents

- 1 Section x
 - Subsection xx

- 2 Section y
 - Subsection xx
 - Subsection yy

Figure: Dummy TikZ Finite State Machine¹.¹.

PGFplots

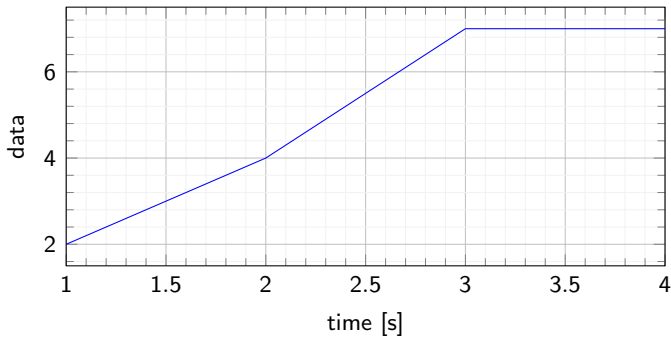


Figure: Dummy PGFplots figure.

Tables

Table: Dummy table.

Author	Year
J. S. Bach	1685–1750
W. A. Mozart	1756–1791
L. Beethoven	1770–1827
F. Chopin	1810–1849
R. Schumann	1810–1856
B. Bartok	1881–1945

Glossary text I

The Metal Oxide Semiconductor FET (MOSFET) is a semiconductor, which uses a Field-Effect Transistor (FET). They have mean power losses (\overline{p}_I), mean conduction power losses (\overline{p}_{Ic}), mean turn-on power losses (\overline{p}_{lon}), mean turn-off power losses (\overline{p}_{loff}) and mean junction temperature ($\overline{\theta}_j$). There is Multi-Level (ML), Medium Voltage (MV), Silicon Carbide (SiC), Gallium Nitride (GaN) Voltage Source Converter (VSC), Neutral-Point Clamped (NPC), Neutral-Point Piloted (NPP), Active NPC (ANPC), Solid State Transformer (SST), Stack Multicell Converter (SMC), Smart Grid (SG), Power Factor Correction (PFC), Flying Capacitor (FC), Total Harmonic Distortion (THD).

The MOSFET is a semiconductor, which uses a FET. They have \overline{p}_I , \overline{p}_{Ic} , \overline{p}_{lon} , \overline{p}_{loff} and $\overline{\theta}_j$. There is ML, MV, SiC, GaN VSC, NPC, NPP, ANPC, SST, SMC, SG, PFC, FC, THD.

Cites

From [1]–[5] asdf.

Contents

1 Section x

- Subsection xx

2 Section y

- Subsection xx
- Subsection yy

Itemize and enumerate

- item 1
- item 2
 - item 2.1
 - item 2.2
- item 1
- item 2
- item 1
- item 2

Itemize and enumerate

- item 1
- item 2
 - item 2.1
 - item 2.2
- item 1
- item 2
- item 1
- item 2

- 1 item 1
- 2 item 2
 - 1 item 2.1
 - 2 item 2.2
 - 1 item 2.2.1
 - 2 item 2.2.2
- 3 item 2.3

Breaks I

- fs
- fra
- hdy
- href
- href
- hyperref
- hhf
- ehrfrh
- hjrjrdej
- rtjrdsj
- sjjh
- gfj

Breaks II

- sgj
- gfj
- dfgj
- fgj
- dfgjd
- dgjdfj
- dfgj
- dfgj
- dfgj
- dfgj
- dfgj
- dgfjsr
- gfj

Multiple columns and blocks

block title

dasd

$$b = 1, \quad (1)$$

$$a = 2, \quad (2)$$

Multiple columns and blocks

block title

dasd

$$b = 1, \quad (1)$$

$$a = 2, \quad (2)$$

block title 2

$$c = \int_{min}^{max} f(t)dt,$$

Thank you for your attention!
Any questions?



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4 Glossary

5 Appendix

6 Appendix 2

References I

- [1] J. Rodriguez, J.-S. Lai, and F. Z. Peng, "Multilevel inverters: A survey of topologies, controls, and applications," *IEEE Trans. Ind. Electron.*, vol. 49, no. 4, pp. 724–738, Aug. 2002.
- [2] J. E. Huber and J. W. Kolar, "Solid-state transformers: On the origins and evolution of key concepts," *IEEE Ind. Electron. Mag.*, vol. 10, no. 3, pp. 19–28, Sep. 2016.
- [3] J. Millán, P. Godignon, X. Perpiñà, A. Pérez-Tomás, and J. Rebollo, "A survey of wide bandgap power semiconductor devices," *IEEE Trans. Power Electron.*, vol. 29, no. 5, pp. 2155–2163, May 2014.
- [4] D. Holmes and T. Lipo, "Pulse width modulation for power converters: Principles and practice," in Wiley-IEEE Press, 2003.
- [5] B. P. McGrath, D. G. Holmes, M. Manjrekar, and T. A. Lipo, "An improved modulation strategy for a hybrid multilevel inverter," in *Industry Applications Conference, 2000. Conference Record of the 2000 IEEE*, vol. 4, Oct. 2000, 2086–2093 vol.4.

Glossary of symbols I

Sign	Description	Unit
$\overline{\theta_j}$	Mean junction temperature	K
$\overline{p_{lc}}$	Mean conduction power loss	W
$\overline{p_{loff}}$	Mean turn-off power loss	W
$\overline{p_{lon}}$	Mean turn-on power loss	W
$\overline{p_l}$	Mean power loss	W

Glossary of acronyms I

Acronym	Description
ANPC	Active NPC
FC	Flying Capacitor
FET	Field-Effect Transistor
GaN	Gallium Nitride
ML	Multi-Level
MOSFET	Metal Oxide Semiconductor FET
MV	Medium Voltage
NPC	Neutral-Point Clamped
NPP	Neutral-Point Piloted
PFC	Power Factor Correction
SG	Smart Grid
SiC	Silicon Carbide
SMC	Stack Multicell Converter
SST	Solid State Transformer

Glossary of acronyms II

THD	Total Harmonic Distortion
VSC	Voltage Source Converter

Appendix:

Appendix 2: