NPTEL Video Course - Electrical Engineering - NOC:Charging Infrastructure

Subject Co-ordinator - Prof. Apurv Kumar Yadav

Co-ordinating Institute - IIT Roorkee

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Introduction to the EV Charging System
Lecture 2 - Building Blocks of an AC EV Charger
Lecture 3 - Building Blocks of an DC EV Charger
Lecture 4 - Review of EV Charger Types and Nomenclatures
Lecture 5 - Revisiting Diode Bridge Rectifier - I
Lecture 6 - Revisiting Diode Bridge Rectifier - II
Lecture 7 - Revisiting Diode Bridge Rectifier with Capacitive Filter - I
Lecture 8 - Revisiting Diode Bridge Rectifier with Capacitive Filter - II
Lecture 9 - Single-phase Boost PFC Converter - I
Lecture 10 - Single-phase Boost PFC Converter - II
Lecture 11 - Single-phase Boost PFC Converter - III
Lecture 12 - Single-phase Boost PFC Converter - IV
Lecture 13 - Closed Loop Control of Single-phase Boost PFC Converter - I
Lecture 14 - Closed Loop Control of Single-phase Boost PFC Converter - II
Lecture 15 - Closed Loop Control of Single-phase Boost PFC Converter - III
Lecture 16 - Closed Loop Control of Single-phase Boost PFC Converter - IV
Lecture 17 - Bridgeless PFC Converter
Lecture 18 - Totem pole PFC Converter - I
Lecture 19 - Totem pole PFC Converter - II
Lecture 20 - DCM operation of Boost PFC Converter
Lecture 21 - Flyback Based PFC Converter
Lecture 22 - Pulse Width Modulation
Lecture 23 - Three Phase AC-DC Converter - I
Lecture 24 - Three Phase AC-DC Converter - II
Lecture 25 - Three Phase AC-DC Converter - III
Lecture 26 - Closed loop control of three-phase AC-DC converter - I
Lecture 27 - Closed loop control of three-phase AC-DC converter - II
Lecture 28 - Closed loop control of three-phase AC-DC converter - III
Lecture 29 - Closed loop control of three-phase AC-DC converter - IV

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Lecture 30 - Revisiting Isolated DC-DC converters - I
Lecture 31 - Revisiting Isolated DC-DC Converters - II
Lecture 32 - Revisiting Isolated DC-DC Converters - III
Lecture 33 - Switching Loss
Lecture 34 - Soft Switching In Half Bridge Configuration
Lecture 35 - Modulation Strategies for PWM Full Bridge Converter - I
Lecture 36 - Modulation Strategies for PWM Full Bridge Converter - II
Lecture 37 - Phase Shifted Full Bridge (PSFB) Converter - I
Lecture 38 - Phase Shifted Full Bridge (PSFB) Converter - II
Lecture 39 - Small Signal Modelling of PSFB - I
Lecture 40 - Small Signal Modelling of PSFB - II
Lecture 41 - Small Signal Modelling of PSFB - III
Lecture 42 - Dual Active Bridge Converter - I
Lecture 43 - Dual Active Bridge Converter - II
Lecture 44 - Transformer Design for Isolated DC-DC Converter - I
Lecture 45 - Transformer Design for Isolated DC-DC Converter - II
Lecture 46 - Transformer Design for Isolated DC-DC Converter - III
Lecture 47 - Filter Inductor Design
Lecture 48 - AC Type-2 Charging - I
Lecture 49 - AC Type-2 Charging - II
Lecture 50 - DC Charging (CCS2) - I
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Lecture 52 - DC Charging (CCS2) - III
Lecture 53 - DC Charging (CCS2) - IV
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Lecture 55 - DC Charging System (BEVC-DC001) - I
Lecture 56 - DC Charging System (BEVC-DC001) - II
Lecture 57 - DC Charging System (BEVC-DC001) - III
Lecture 58 - Charging Stations - I
Lecture 59 - Charging Stations - II
Lecture 60 - Charging Stations - III
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